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THE
MONTHLY CYCLOPÆDIA
and Medical Bulletin
OF
PRACTICAL MEDICINE

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ANNOUNCEMENT.

The Nobel prize in Medicine and Physiology was awarded this year to Professor J. P. Pawlow, of the Military Academy of Medicine of St. Petersburg. The medical world cannot but applaud this selection; the honor has never been conferred upon a man more worthy of it.

That Professor Pawlow's main work was in connection with the digestive organs is well known, but a feature of his investigations which has not been sufficiently appreciated, is that their practical value is principally due to the broad field covered by them. Though a physiologist, he has always emphasized the need of seeking in pathological states, as well as in the laboratory, the solution of physiological problems. "The question as to whether the gastric glands have likewise a special secretory innervation," wrote Professor Pawlow some years ago, "is now a very old one and has had an interesting career. In this matter physiology stood for a long time in sharp conflict with practical medicine. Physicians bringing forward their observations in proof, had long answered the question in the affirmative, and looked upon the existence of secretory nerves to the stomach as undoubted. They had even come to recognize different morbid conditions of the innervation apparatus. Physiologists, on the other hand, had fruitlessly endeavored for decades to arrive at definite results upon this question. This is a striking, but by no means isolated, instance where the physician gives a more correct verdict concerning physiological processes than the physiologist himself; nor is it indeed strange. The world of pathological phenomena is nothing but an endless series of the most different and unusual combinations of physiological occurrences which never make their appearance in the normal course of life. It is a series of physiological experiments which nature and life institute, often with such an interlinking of events as could never enter into the mind of the present-day physiologist, and which could scarcely be called into existence by means of the technical resources at his command. Clinical observation will consequently always remain a rich mine of physiological facts. It is therefore only perfectly natural that the physiologist should endeavor to maintain a close connection between his science and that of medicine."

The readers of the MONTHLY CYCLOPÆDIA have doubtless recognized that this thought has inspired much of the work submitted in its columns. So clearly does it meet the needs of the moment, that it has been determined to increase the size of the journal in order to develop its field of usefulness in this direction. Beginning with this month's issue, therefore, the MONTHLY CYCLOPÆDIA will contain editorials by leading clinicians, pathologists, physiologists, surgeons, etc., in which the practical and experimental branches of medicine will be jointly analyzed. That such distinguished members of the profession as Nicholas Senn, Allen J. Smith, Henry Beates, Jr., James Tyson, Joseph Collins, C. A. Oliver (whose papers appear in this and the next issue) should, from the start, give the plan their active support, is suggestive. It is hoped that it will meet with the approval of our readers.

The editor's labors being such as to prohibit his assuming additional duties, he was able, through the kindness of his publishers, to obtain the valued co-operation of his friend, Dr. J. Madison Taylor, whose scholarly attainments and scientific knowledge are well known, and who will have charge of the new department.

Editorials.

THE TRAINING OF THE MODERN SURGEON.

THERE is no country in the world where surgery has received more attention than in the United States. This fact becomes very apparent in all of our many medical schools, the transactions of our medical societies, and in the current medical literature. Much of the progress and advancement of surgery during the last quarter of a century is the outcome of the work of a large number of our indefatigable surgeons. It is very apparent everywhere that the American doctors have a special predilection for the mechanical part of the healing art. It is not saying too much when I make the statement that this tendency has grown beyond the limits of normal requirements. The great field of the practice of internal medicine does not appear to offer the same attractions to our young graduates as the operating room. American medicine is becoming more and more surgical, and this change has not always been for the benefit of patients nor for the betterment of the science and art of medicine.

The surgeon is not made in medical colleges. The function of the medical colleges consists in qualifying their students for general practice. The student who in the day of his graduation decides to devote himself exclusively to surgical practice makes a great mistake. The scientific, successful surgeon must be a good physician. He must be thoroughly grounded in the fundamentals of medicine, anatomy, physiology, chemistry, bacteriology, and pathology. These primary studies constitute the foundation upon which scientific surgery rests. Without such a firm foundation surgery is reduced to the level of a menial trade. The elementary branches must be mastered in college. The students who devote their energies and a liberal share of their time to the elementary branches and know how to apply them in practice will experience no difficulty in grasping the teachings of the practical chairs.

How many physicians and surgeons study the elementary branches after graduation? Very few, indeed. They spend their leisure time in keeping pace with the rapid advances of the practical part of their profession; hence the great necessity of giving the elementary branches the importance and attention they deserve on the part of teachers and students. The surgeon must be a good diagnostician, and this he cannot be unless he is a competent physician. I have often been amused and instructed in looking over the libraries of surgeons. Only too often have I found them made up of books and journals devoted exclusively to surgery. Frequently the only works on internal medicine were the well-worn text-books used in college. This is a great mistake. The moment the surgeon loses interest in general medicine, from that moment he neglects the scientific part of his work and gradually drifts into a routine practice. Surgery should be the outgrowth of a general practice.

After the young physician has practiced general medicine for five or six years and finds that he is in possession of an aptitude for surgery, then is the proper time to lay out his plans for the future. The experience gained during several years of general practice will be invaluable to him in his subsequent surgical career. He is then not as confident as he was immediately after graduation. If he is honest with himself he has discovered defects in his professional education which must be remedied. He is then well prepared to perfect himself for his new career by further laboratory work and clinical instruction. Only too many have been laboring under the wrong impression that all that is necessary is to attend one of our numerous post-graduate schools or visit a famous clinic for the same length of time. This is a great fallacy. The young physician in quest of surgical knowledge must spend one or, still better, two, years in the further study of surgical anatomy and surgical pathology and reap the benefits of clinical instruction not only of one, but of a number of operators with a well-earned reputation. An observing student will soon become familiar with the methods and technique of an operator and each surgeon has some branch of surgery in which he is more proficient than others. It is no longer necessary to make pilgrimages to foreign countries for post-graduate instruction in surgery. There are many excellent institutions in this country that can furnish the necessary laboratory facilities and many surgeons whose work has earned for them more than a national reputation. A visit abroad for six months or a year is to be recommended, especially if the student is familiar with the German or French language. A scientific tour through a foreign country without a knowledge of the language is most unprofitable and should not be encouraged.

To sum up the training of a surgeon: master the elementary branches in college, do general practice for several years, return to laboratory work and surgical anatomy, attend the clinics of different operators, and never cease to be a physician. If this advice is followed there will be less unnecessary operating done in the future than has been the case in the past.

N. SENN.*
Chicago.

THE QUESTION OF POSTURE IN CARDIO-VASCULAR DISEASE.

IN normal states of the circulatory apparatus the various factors combined in maintenance of an even progression of the blood are so co-ordinated that their individual contributions to the accomplishment of the work in hand can only with special care be demonstrated, although easily appreciable in theory; but in states of difficulty of circulation each factor in its inco-ordination may come to be in part or solely responsible for important phenomena in the symptomatology of the case. Posture, with its inseparable feature of blood gravitation, is in health appreciable only by theory or special experimental effort; yet in conditions of difficult circulation it becomes a factor of ranking importance, favorable attitudes of the body or of special parts being unwittingly, but certainly, sought by the sufferer and often acquiring valuable significance to the objective observer. The well-known advice to change the patient from side to side and to limit the periods of dorsi-posture in cases of impeded pulmonary circulation in pneumonia and hypostasis of the lungs, the common practice of depressing the head and upper part of the trunk in anæsthetic shock, and the somewhat similar posture assumed by every individual in any similar state of faintness are examples in point. Whatever the nature of the fault of equilibrium between the pressure of the circulating fluid and its containing walls, whether a fault of bulk content (and in some measure of the blood character), a nervous atony of the walls, or a definite structural inability of the heart or vessels or both, the same factor of posture is certain to manifest itself in a more or less prominent measure as the fault passes the bounds of endurance. In consequence a variety of physical peculiarities become apparent and may proceed to troublesome grades. As illustrative of this group of phenomena depending more or less upon such mechanical variations, several may be presented, as often noted in the course of cardio-vascular disease.

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What explanation may be given of the nocturnal polyuria of such cases? The polyuria of chronic cardio-vascular cases is commonly referred to the renal organs themselves, and accepted as a symptom of fibrosed kidneys, typically in the so-called "red, granular kidney," but also in the "fatty and contracted" state of these parts; yet this is probably quite as incorrect as the old classification of diabetes mellitus as a form of renal disease. The urinary function may tentatively be looked upon as twofold: filtrative and secretory. The latter of these, for the sake of the argument, may be placed aside as nonessential to the question in hand. In large part, from the structural analogy of these parts to filters, the filtrative process may be attributed to the Malpighian tufts and their inclosures; and the degree of filtration, importantly influencing the total quantity of urine, must depend largely on questions of degree of vascular pressure in these structures—always in correlation with regularity of circulation in the organ. Excess of pressure associated with appreciable degree of stagnation or passive hyperæmia in the kidney cannot, save at the very start of the condition, lead to increased filtration from mechanical reasons (which may here be neglected to avoid digression), but must lead to diminution of the filtrative output; and so, too, diminution of pressure with or without a tendency to renal stagnation must constitute an unfavorable state for the filtrative process. In the type of cases in hand two factors may be thought of as increasing intravascular tension, aside from such as operate upon the venous side of the circulation, the fibrosis of the vessel walls and the cardiac hypertrophy. The former of these might well be corrected by variation of the bulk of the contained blood; to both, but especially the second, must be attributed the increase of tension induced by the increased cardiac force and its distribution to the smaller streams; and at least in some measure this increase of tension must, so far as the kidney is concerned, be regarded as contributory to filtration through the tuft walls and therefore to increase in urinary production. In the production of the increased output of night, so common in such cases, the question of body posture is, to the writer's mind, an important element, even though it be not the sole element of difference in the diurnal and nocturnal life of the individual. Of course, in all cases the regularity of circulatory flow depends in an enormous degree on the relative integrity of the venous return; and this can never be disregarded in contemplation of any individual case. But, supposing other factors to be negligible for the present (the absence of distinct obstruction, fair respiratory movement, a competent heart, etc.), it may be presumed that venous return from the bulk of the body-mass will be more easy in the recumbent posture than when operating against gravity in the erect attitude, and that under such circumstances general circulatory progression will be favored. On the other hand, presuming that in the presence of a diffuse arteriosclerosis the vascular caliber will be much the same in the arterial tree at all hours, the heart should find, in forcing the blood through the recumbent body, a greater difficulty than when the individual is erect, because of the elimination of an important force: the weight of the blood column beyond the arch of the aorta. The work of the heart in the changed posture as compared with that in the erect position (disregarding the circulation in the head and neck for the time, but accepting it as a modifying influence of secondary importance) is that of pulsing forward over a wide, but relatively flat, area the weight of the arterial column as compared to the lifting of the same weight perpendicularly over the short interval between the ventricular level and the level of the aortic arch. Or, in a homely simile, the work would differ between the transference of a ton of coal, shovel by shovel, to a new heap, say, fifty feet distant on a level, and the heaving of the same weight, shovel by shovel, over a barrier of two or three feet in height and allowing it to fall on a new heap fifty feet below. The difference is appreciable. This should mean, the work of the heart being more difficult in the recumbent position, it should beat with greater force, and that the increase of force of each wave should be felt by the renal arteries and capillaries in the tufts in an increased tension, and that filtration should thus be augmented. The difference between tension in the tufts at such a time and that of the diurnal erect position, in which the weight of the arterial column enters, may be little,—but an important feature enters in that it is applied at a time more favorable for constant interchange of blood in the organ (the recumbent posture favoring venous return), the amount of filtration depending not only on the actual pressure in the kidney, but upon the volume of blood passing through it as well (the watery elements of the blood approaching the glomerules being proportionately greater and more favorable for filtration than that which has been relatively stationary in the same position and robbed of more or less of its filterable material).

The same principle applied to the question of why a cardiac case, passed to the stage of cardiac weakness and degeneration, should require a higher and higher pillow and eventually find relative comfort only in the sitting posture. The work of propelling the blood over a wide, flat area (recumbent posture) is found progressively preponderating over the face of the heart, and the recumbent position tends to interfere with what is now perhaps the most active of the influences in venous progression,—respiratory movement. The erect posture in extreme cases adds to venous movement by the height of the venous column and demands muscular effort for its maintenance. The intermediate sitting posture hence comes to be insistently demanded as presenting less difficulty in either direction. The heart may be of sufficient power to accomplish the elevation of the arterial stream over the arch of the aorta, largely leaving to gravity the distribution of the fluid in the trunk and extremities; but the least depression to a lying posture is quickly marked by cardiac labor and the oncome of cyanosis. The difference in the perpendicular lift of the venous stream between standing and sitting is roughly represented by the column of blood in the femoral vein, or if the lower extremity be elevated by the venous column in the entire limb, whence a very real aid in removal of gravitation is to be recognized; and little wonder can be felt that at times in the moribund state sudden assumption of erect or semi-erect posture should entirely overpower the right heart and death should follow.

So, too, identical lines of explanation are applicable in questions of distribution of cardio-vascular œdema, typically met in the feet and hands, in the distribution of terminal cardiac purpura, and of cyanosis, as well as a number of other of the well-recognized symptoms of such disease. Of course, the presentation of this one factor is not to be interpreted as an idea of its sole importance in determining the semeiology of such cases or as operative without important reactive influences arising in connection with the other forces of circulation; but in its part as one among a number, as an important part of disordered mechanism, it has here been presented in this mode of casual discussion by invitation of the editor.

Allen J. Smith.*
Philadelphia.

DIGITALINE IN THE TREATMENT OF NUTRITIONAL DISORDERS.

The scope of digitaline (Merck's German) in the treatment of nutritional diseases, is shown to have a wider and deeper application as we examine into the physiological laws justifying its administration. Clinicians regard this remedy too exclusively as applicable only to diseases of the heart. In reality, cardiac affections constitute but a narrow field for this exceedingly valuable agent.

When the physiological principles underlying metabolism and nutrition are called to mind, the truth and forcefulness of this assertion becomes apparent. In considering this subject it must be remembered that cellular function depends upon the blood-plasma—derived from the terminals of the arterial side of the circulation surrounding the cellular elements. This fluid provides the cells with the principles necessary for their life, as well as those which are essential to the performance of the special functions with which they are endowed. It is also necessary to bear in mind that, its origin being from the arterial side of the blood-stream, normal cell-action must necessarily depend upon *normality,* quantitative and qualitative, of the plasma fluid. We are thus confronted with vast physiological problems associated with the circulation.

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* **Professor of Pathology, University of Pennsylvania.**

This intercellular blood-plasma, it must be emphasized, is a totally different factor in vital phenomena from that lymph contained in the lymphatic system proper. Indeed, lymphatic system lymph is the remains, so to speak, of intercellular lymph, which has already performed its chief functions. It occupies relatively a position of minor importance, in so far as metabolism and nutrition are concerned. Again, as is well known, the normality of the oxygen-bearing intercellular plasma depends upon the mean pressure existing between the arterial and venous sides of the circulation. Any condition, therefore, local or central, which disturbs this equilibrium, or mean pressure, must necessarily greatly modify its value in function.

That local morbid processes do exist in a system such as the circulatory, seems to have attracted too little attention. The physiology of a system such as this must, in a sense, involve its entirety, and yet the *morbid* process may show itself altogether *locally.* It may as reasonably be expected, therefore, that remedial measures affecting a system as a whole can correct the *local* defect.

The problem of maintaining the circulatory equilibrium is chiefly solved by the function of the arteries, and that property, hitherto not sufficiently recognized, the regulation of propulsion. The propelling power of the arteries is, obviously, a most important factor, when taken in connection with nutritional diseases. This property of the arterial system has been shown by Sajous, who has, in addition to his personal researches, studied the investigations of physiologists, physiological chemists and histologists, to be largely governed by the adrenal system.

Whether, in the treatment of this vast field of nutritional disorders, a remedy excites the normal physiological activity of the adrenal system or acts directly upon the structures involved, the terminal process is explainable in the same way. The direction of the plasmatic circulation is from the arterial terminals toward the radicals of the venous system. The pressure is greatest in the intercellular spaces and steadily diminishes until a state of negative pressure prevails in the venous channels.

The relation of the negative pressure to coronary circulation and cardiac function is too large a subject to be here discussed, but the simple fact that, as the myocardial function (owing to reduced efficiency of the plasma) loses some of its functional activity, the contents of the coronary arteries become proportionately reduced, and the output of the left ventricle, at each pulsation, is diminished both in volume and strength, points to its importance. The degrees of these serious disturbances vary with the intensity of forces in operation and other factors involved.

The maintenance of cardiac action, under conditions of coronary disease and myocardial degeneration, therefore, depends upon the intelligent, and what, for self-evident reasons, must be called the bold, administration of digitaline (Germanic, Merck.) This particular preparation, digitaline, is specifically mentioned because it has proven to be the *one remedy possessing, pre-eminently, this power.*

In the range of disturbed metabolism and nutritional disorders can be included all of those senile alterations of function dependent upon changes in the arterial system. Because of their interference, locally, with circulatory equilibrium, there occurs surcharging of the dendrites with intercellular plasma of an abnormal or hypo- or hyper- tonic quality. This in turn results in interference with the chemical and physiological processes through which nervous energy is developed. The manner in which the nerve-energy is evolved has been ascribed by Sajous to a reaction between the phosphorus of the myelin (highly organized so-called fat, really alcohols) of the nervous elements and oxygen in the axis-cylinder,—*i.e.,* the oxygen of the blood-plasma, which also travels, in his opinion, through nervous elements. This clearly accounts for the benefit obtained from agents which enhance oxygenation,—*i.e.,* functional activity.

Failure of memory, forgetfulness of recent events, nocturnal insomnia, drowsiness through the day, and, in further advanced cases, the clinical picture of apparent cerebral softening, are frequently nothing more than inhibitions of cell function. By the bold use of digitaline, employed with a view to bringing about a restoration of lost circulatory equilibrium, these symptoms can be overcome, and the associated nutritional defects removed, so that such a brain may be restored to its proper relationship with the life unit of the individual.

The same principle is applicable to parallel processes in any structure whatsoever, whether it be in the subcutaneous cellular tissue, as in ulceration accompanying varicose veins; in the disturbance of the mucous membrane of the bronchial system so common after prolonged bronchitis; in the albuminuria of cyanotic kidney, and even in many forms of pain included in the term "neuralgia."

Indeed, if the clinician will carefully apply his knowledge of the physiology of metabolism to any organ of the body, when contemplating the treatment of nutritional diseases dependent upon the qualitative disturbances of the intercellular blood-plasma, he will meet with gratifying results. The digitaline referred to, in association with such other remedies as any concomitant and associated conditions may demand, has been especially effective in the writer's hands when employed with this aim in view. Its action deals with cellular nutrition, regeneration, and growth, and its administration, therefore, must be continued at times for months or even years, as the conditions determine.

HENRY BEATES, JR.*
Philadelphia.

THE ROLE OF ADRENOXIN (OXIDASE) IN PATHOLOGY.

IN the April (1904) issue of this journal I commented upon remarks made by Prof. A. E. Wright, March 9, 1904, before the Chelsea (England) Clinical Society, in which this distinguished pathologist referred to substances that "were present in considerable quantities in the blood." He characterized them as "protective substances which were involved in the cure of disease," and concluded that "they were to be regarded as produced by internal secretion." He added, however, that he "did not know where they were produced in the body."

My commentary included the following lines: "Excepting the implied multiplicity of sera, Professor Wright strikingly confirms, it seems to me, the conception I have submitted of the means through which the body protects itself against pathogenic elements, poisons, etc., by means of its *internal secretions.* The 'laws' which underlie the production of these substances, a knowledge of which he craves, are, I may add, embodied in the functions of the ductless glands which produce *trypsin, adrenoxin,* and *fibrinogen,* the two latter serving jointly to insure the efficiency of the first, the body's main resource against pathogenic elements. Prominent among these laws is the following: 'The power of the organism to antagonize the constitutional effects of pathogenic germs, their toxins, and other poisons is directly proportionate, all else being equal, to the functional efficiency of the adrenal system.' Moreover, Professor Wright's remarks are of great value in that they emphasize—as I have done ('Internal Secretions,' etc., vol. i, pp. 609-666 and 728-751)—the dependence of the immunizing process, now being studied in every laboratory, upon the internal secretions. The general law of the production of immunity under these 'protective substances' may, perhaps, as Professor Wright says, 'be taken as well established,' but the admission that the *source* of the protective substances is unknown obviously weakens this assertion. In fact, I do not hesitate to state that pathologists will continue to work in the dark, as they have now been doing several years, until they realize that the very few substances, to which various names have been given: Buchner's alexins, Ehrlich's complement, Metchnikoff's cytase, Ehrlich's intermediary body or amboceptor, Bordet's sensitizing substance, etc., *are* internal secretions in the true sense of the word: *i. e.,* products of *ductless glands.*"

Suggestive in this connection is the following editorial in the *Medical News* of December 24, 1904: "'Life is a series of oxidations,' has become an important

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***President of the State Board of Health, Philadelphia, Pa.**

formula of modern physiology. The manifestation of heat and visible motion, in which respects alone life reveals itself to physicist and chemist, has been amply explained in the basis of an oxidation of the complex organic compounds out of which the tissues are built.

"Not content, however, with this conclusion, physiologists have probed more deeply into the mechanism of vital oxidations, and discovered that these processes are brought about by certain unorganized ferments present in the tissues, and called oxidases. The discovery of these substances has opened up a glittering world of possibilities to the investigator.

"The oxidases are catalytic agents possessing the property of uniting with molecular oxygen and delivering it in its atomic or active form of the tissues. These enzymes are present in all parts of the body and have been discovered even in the milk and urine. They have not been isolated in their pure state, but their presence has been definitely demonstrated by a variety of well-known tests.

"The practical importance of investigation on the nature of the oxidases and their mode of operation cannot be overestimated. It is not entirely poetic imagination that inspired Jacques Loeb to predict that through the oxidases one may in time be able to control life as the artist governs the keys of the piano. Not merely the normal course of life, but also that vast gamut of diseases characterized by metabolic derangements, might be controlled if we only knew how to favor or retard the action of the oxidases.

"Recent researches in this domain, valuable in themselves, are still more valuable as an earnest of the rich harvest which the future holds. L. Liebermann has pointed out a close analogy between colloidal platinum and the oxidases. The former, which has for a long time been known to act as a catalytic agent in the decomposition of peroxide of hydrogen, owes this power to the active oxygen which it contains. The colloidal solutions of platinum possess the capacity of activating molecular oxygen. In this process loose compounds of platinum and oxygen are formed. The catalytic power of colloidal platinum is increased by the passage through it of some inert gas, such as hydrogen or nitrogen, which action is attributed to the mechanical agitation produced by the streaming gas which, by breaking up large particles of the platinum, renders this capable of uniting with a large amount of oxygen. The surface attraction of the large extent of surface represented in the very fine particles present in solution is capable of tearing asunder the constituents of the inactive oxygen molecule.

"The experiments of L. Liebermann on colloidal platinum also *open up a vast field of possibility in the domain of pathology.* This observer states that the mechanism of the oxidative reaction helps to explain certain phenomena connected with the destruction of foreign and toxic bodies in the organism. Certain pathogenic bacteria are rendered innocuous by uniting with protective bodies normally present in the organism, the complements of Ehrlich. But these act so slowly that they cannot fortify the organism against an intoxication. On this account another body is necessary, the amboceptor (immune body), which will unfold the activity of the complement. The analogy to the phenomena of the oxidative reaction is as follows: The pathogenic agent corresponds to the tissue, the complement to the active oxygen, and the amboceptor to the oxidase. The amboceptor is thus nothing more than a catalyzer.

"That catalytic agents akin to the oxidases play an eminent rôle in subduing septic processes in the organism is indicated by the recent researches of M. J. Hekman and H. J. Hamburger. These observers sought an experimental demonstration of the clinical experience that colloidal silver has a favorable effect in various forms of bacterial invasion. They found that, while solutions of collargolum of a low concentration increase the hæmolytic power of staphylotoxin, solutions of a higher concentration entirely inhabit hæmolysis. The authors attribute the inhibitory action of colloidal silver to some catalytic effect. In view of Liebermann's experiments on colloidal platinum, this conclusion is probably correct."

That Liebermann's conclusions only confirm those submitted by myself two years ago in the first volume of my work on the "Internal Secretions," etc., is obvious. The most casual perusal of this volume will show that the 800 pages it contains serve mainly to emphasize the overwhelming importance, in physiology, *pathology,* and therapeutics, of the oxidizing substance, the so-called "oxidases," of the blood. Not only is their rôle in each organ, including the nervous system, defined, but their identity (the secretion of the adrenals, which by taking up oxygen in the lungs becomes my "*adrenoxin*") is also given. The complement of Ehrlich is assimilated therein, owing to its physico-chemical attributes, to a *trypsin*like body in the blood-stream. This body, in order to become effectively bactericidal or antitoxic, is stated by me to require the aid of adrenoxin—also said, owing to its properties, to correspond with Ehrlich's amboceptor or immune body. I likewise specify that adrenoxin only produces its effects indirectly, *i.e.,* by catalysis, its rôle being to transfer its oxygen to a third body, *fibrinogen,* to raise, through the effects of an exothermic reaction, the proteolytic activity of the trypsin, which, as is well known, steadily increases under the influence of heat up to a given limit.

That Liebermann's labors are valuable as confirmatory evidence, but *as such only,* will be recognized by our readers.

Even the control of oxidations, "as the artist governs the keys of the piano," as Jacques Loeb expresses it, is a subject treated at length in "Internal Secretions," the keyboard being located in the pituitary body.

Charles E. de M. Sajous.

Cyclopædia of Current Literature.

ACID INTOXICATIONS.

By slow degrees and with much travail is nature delivering up the mysteries of her more involved chemical processes. While for many years we have written exhaustively on the oxidations and reductions that take place in the human body and of their relation to diseased states, it may be said that we are as yet only in touch with the earliest stages of the birth of correct ideas concerning these processes.

One type of perverted chemisms has been termed the acidoses, or acid intoxications, and the researches of Magnus Levy, Herter, von Mering, Minkowski, and others have advanced to such a stage that they offer practical guides to treatment, particularly for the more fragrant or pronounced states of these forms of slow poisoning.

It is recognized that two important factors enter into the acid intoxications. Such acids may, in small part, be absorbed from the stomach from foods, etc., but these are of much less moment than the organic acids that are formed as the result of damage to the cells of the body whereby the ordinary products of metabolism are not properly oxidized. These oxidations, it is well established, are carried on particularly in the liver cells and in the muscles, but when these cells fail in their full duty organic acids, particularly diacetic and oxybutyric, are formed in comparatively large quantities, and as a result of their noncombustion they eagerly seize upon the alkalies of the body cells, and, withdrawing these from the metabolic activities, set up a vicious cycle, whereby cell respiration is very much hampered. For, as it is well recognized, it is necessary for the blood to utilize the sodium of the body in combination with CO_2 to carry on its oxidation functions in the lungs. The sodium, having been largely seized upon by the organic acids, is not available for this most important work, and Pelion is heaped on Ossa to the ultimate causation of disease.

It is gradually becoming apparent that a number of causes bring about the primary increase in the formation of these acids, and an increasing number of affections of a milder or severer grade are being recognized as following in the train of these suboxidations.

As for internal metabolic causes, we are not yet in a position to assert just what are the starting points. Intense intestinal putrefaction is known to set free a series of bodies which cause an increase in the acetone bodies in the system, but those most open for research are found in drugs. Thus, carbon monoxide is known to increase the acetone bodies, so also phloridzin, which drug induces a type of glycosuria of more than passing experimental interest. From another viewpoint adrenalin brings about a glycosuria, as do also chloroform, ether, antipyrin, morphine, atropine, and others.

The exact steps in the process of acid formations by these bodies is not yet outlined, but they each and all are opening up new lines of approach to the solution of the first cause.

The results of these intoxications we have always with us. Some, like arthritis deformans of the noninfectious type, defy all efforts at analysis, and we are compelled to fall back on an hereditary nervous defect, which is the hair trigger, as it were, to this type of acid intoxication, to account for the trophic disturbances in the joints.

It seems not improbable, from general research, that the cyclical vomiting of children, the vomiting of pregnancy, and eclampsia have as one of their etiological factors at least the overproduction of these organic acids, while in diabetes the classical extreme of complete acid intoxication is met with.

While the general procedures of the therapeusis of these conditions are only vaguely outlined by the slow accumulation of a rational understanding of the morbid processes themselves, it is not too visionary to hope for much relief in the near future.

For the most pronounced of these diseases, diabetes, the general rationale is now fairly clearly perceived; but it begins unfortunately only after the disease has become established. The knowledge that will lead to the possible prevention of diabetes still is hidden.

Alkalies, to replace the used sodium bases; careful intestinal hygiene, particularly limiting excessive putrefaction; a diet not too restricted, especially not as to water, but one sparing in fats and carbohydrates; a partial removal of the ban on proteids, and an annihilation of the doctrines founded on the fancied differences in red meats and white meats,—these, combined with an open-air occupation, involving mild exercise in a carefully selected equable climate, are the main features of the therapeusis not only for diabetes mellitus, but for practically all of the acidoses. Editorial (Medical News, December 17, 1904).

ALBUMINURIA.

Nothing is simpler in the routine work of the clinician than the detection of albumin in the urine when it is present in considerable quantities. Every physician, however, sees cases in which only traces of albumin are present or in which the reactions obtained are atypical; it is then that he often hesitates to trust his own results, and prefers to send the specimen to an expert physiological chemist for a definite opinion. So many different tests have from time to time been recommended for the detection of minute traces of albumin, and so many warnings regarding fallacies have been made, that it is but little wonder that the physician who lacks time to follow the advances in analytical chemistry should sometimes become confused. It would be helpful if some chemist in whom the profession has confidence would at intervals "take stock," so to speak, of the various practically important urinary tests, sift out the less essential reactions, and present to practitioners, as the result of the application of his critical judgment, a few simple and reliable methods of procedure.

Out of the host of tests for albumin in the urine, a satisfactory selection for the average practitioner might be made somewhat as follows: In the first place, a very delicate test might be applied, like that of Spiegler as modified by Jolles, which, when applied as a ring test, will demonstrate the presence of as little albumin as 0.002 gram in a liter. If with this very sharp test a negative result is obtained, the urine may at once be pronounced absolutely free from albumin; if a positive result be yielded, confirmatory tests should be made with less delicate reagents—the heat and nitric-acid test, Heller's test, and the test with ferrocyanide of potassium and acetic acid. If all are positive the presence of albumin in pathological quantity may be safely diagnosed.

Albumin being present, it is desirable

to determine if it be serum-albumin or globulin, or both. For clinical purposes the presence or absence of globulin can be ascertained by simply diluting the urine, making sure that it is acid in reaction. Globulin is soluble in salt solutions of the concentration of ordinary urine, but is insoluble in very dilute salt solutions; it falls out as a flocculent precipitate if the urine be well diluted with distilled water. Thus, if 50 cubic centimeters of filtered urine be diluted with 500 cubic centimeters of distilled water, and 1 or 2 drops of dilute acetic acid be added, the urine will remain clear if globulin be absent, but will show flocculi if it be present.

Whether albumin be present or absent, the urine should next be tested for the presence or absence of albumoses. In ordinary practice, as safe a method as any recommended for the purpose is to add 5 drops of dilute acetic acid and 2 cubic centimeters of saturated solution of common salt to 10 cubic centimeters of urine; boil and filter while hot; if the filtrate on cooling becomes turbid, albumoses are almost certainly present.

The delicate reagent of Spiegler, as modified by Jolles and recommended above, is not nearly so well known as it should be. The test fluid consists of 10 grams of corrosive sublimate, 20 grams of succinic acid, 20 grams of sodium chlorid, and 500 cubic centimeters of distilled water. To 5 cubic centimeters of filtered urine is added 1 cubic centimeter of dilute acetic acid, and this mixture is, by means of a pipette, gently and gradually passed down the side of an obliquely held test-tube containing 4 or 5 cubic centimeters of Spiegler's reagent, so that the acidified urine forms a layer on the surface of the reagent without mixing with it; if albumin be present, a sharp white ring appears immediately, and the precipitate will not disappear on warming.

There has been much demand among physicians for a safe and practical test for albumin in the urine, applicable at the bedside, or, at any rate, at the patient's home. For this purpose there is nothing better than the sulphosalicylic-acid reaction; the physician may carry in his pocket or medical case a small phial of dry crystals of this acid. To apply the test one simply drops a few crystals of the acid into a little fresh acid urine and shakes; if albumin be present, a precipitate will be formed or the urine will become turbid; even if only a trace exists, the urine will gradually become opalescent. This reaction, though very simple, is delicate enough; if the test yield a negative result the urine may be assumed to be free from albumin; if a positive result be obtained, the urine contains albumin, and a specimen should be taken to the physician's office laboratory and examined according to the outline given above. Editorial (Journal of the American Medical Association, December 3, 1904).

ARTERIES, THE EFFECT OF COLD ON.

It is almost universally believed that the first effect of cold is to contract the arteries, and that of moderate warmth to relax them, but this has never been directly proven. Another point which has not been solved is: what is the condition of the vessels on either side of the part to which the stimulus is applied? An investigation of this character has been instituted by the writer with Gärtner's method of recording the pulse. The lever of the instrument was adjusted to the middle of the forearm, and then cold applied either above or below this point in the form of an ether spray. The results failed to support one of the most accepted tenets of hydrotherapy, as it was found that the large artery which carries the blood from the place where the irritant was applied to the point under observation the sphymograph failed to contract under the influence of cold. The pressure in the small arteries distal to the point where the cold is applied rises, because these vessels retract in the tissues supplied by them. On the other hand, the tension decreases in the small arterial twigs, central to the same point, because these vessels dilate. When warmth was used instead of cold, the results were so inconstant that no conclusion could be formulated. The results of these investigations are summarized as follows: The application of cold does not influence the diameter of a large arterial branch. The tension in the minute branches peripherally situated is increased by the contraction of the capillaries, while in the centrally disposed set of vessels the tension is diminished, because of the dilatation of the corresponding set of capillaries. M. Herz (Berliner klinische Wochenschrift, November 7, 1904).

ASTHMA, NASAL TREATMENT OF.

An experience obtained from treating over 400 cases of various kinds of asthma is responsible for the opinion expressed by the author that it is those asthmatics who present no gross nasal lesions and no subjective nasal symptoms, that give the best hope of affording relief by intranasal treatment. Of 402 recorded cases only 14 obtained no relief, and of these 3 suffered from polypi and 2 from such pronounced deflections of the septum that it was impossible to apply the galvanocautery without doing operations which were declined. Only 8 cases that presented no gross nasal lesions, out of 346 cases treated, obtained no relief, and of these 3 were seen by the author only three times and 1 four times. Of the remaining 4 cases, one was a pronounced morphino-maniac. In addition to these 14 known failures there are 17 cases where it was not possible to obtain any record of the result, and a number of others that were completely relieved or greatly improved when lost sight of.

From the experience obtained in treating these cases the writer concludes that asthma is due to reflex spasm of the bronchial tubes. The irritation may originate in the nose, as may be inferred from *(a)* the intimate association between hay fever and asthma; *(b)* the very common record of excessive sneezing at some period in the previous history of an asthmatic patient; *(c)* the not infrequent alteration between asthma and sneezing.

Asthma is not directly due to any mechanical obstruction of the nasal passages, and is not commonly caused by any gross nasal lesions. Some part of the nasal apparatus has a controlling influence on the respiratory center; or there is in the nose, as it were, an agency through which the afferent impulses must pass. Alexander Francis (Journal of the Royal Army Medical Corps, November, 1904).

ATROPINE, ACTION OF, ON THE INTESTINE.

The writer reports in a preliminary communication the result of his experiments on the intestines of rabbits and cats, in which he tested the action of atropine. The intestines were isolated in the manner now employed by physiologists, and placed in an appropriate bath, which kept up their living properties. In other animals he performed laparotomies and immersed the abdomen in appropriate baths, watching the actions of the intestines under the influence of atropine. His conclusions were as follows: Atropine, either in weak or in strong solutions, stimulates and regulates the contractions of the intestines. Weak solutions act chiefly on the longitudinal muscle fibers of the intestines, while stronger solutions act chiefly on the circular fibers. Very strong solutions of atropine produce a tetanic state in the intestines. Even saturated solutions of atropine do not paralyze the isolated intestine. The irritability of the muscle tissue of the isolated intestine is increased by atropine. As the result of these observations, there is reason to believe that the drug in question stimulates the motor ganglia of the intestine, first producing a contraction of the longitudinal fibers and then of the circular fibers. Atropine does not act on the empty intestine, but if injected into the veins of an animal with full intestines it promotes peristalsis. Paralysis of the intestines from atropine occurs very rarely in living animals, even after poisonous doses, and is then intimately connected with the paralysis of the heart and respiration. The mode of action of atropine on the intestine, which was hitherto unknown, is probably through its influence on the motor nervous mechanism of the guts (Auerbach's plexus), and through a rise in the irritability of the muscle fibers. The longitudinal fibers are excited first; then the others. N. E. Riedel (Roussky Vratch, October 16, 1904, from New York Medical Journal and Philadelphia Medical Journal, December 3, 1904).

BARIUM CHLORIDE, MEDICINAL VALUE OF.

The author confirms the experiments of Schedel, and others, who employed barium chloride as a cardiac stimulant, and for other therapeutical purposes. He found that barium chloride acts favorably upon each of the following symptoms independently of one another: The lowered blood pressure, the pulse, the anuria, the dyspnœa, the cyanosis, and the œdemas. It is a question how barium chloride produces these effects. Certainly not through a direct influence upon the heart, for this may be excluded from the irregular manner in which it acts on the pulse itself. On the other hand, the addition of barium chloride to other true heart stimulants exalts the effects of the latter. The German authors believe that the essential effect of barium chloride is to raise the maximum blood pressure. On the other hand, the present author thinks that this effect is exercised indirectly through raising the arterial tone, and thus increasing the medium pressure. Clinically he gives the following indications for its use: 1. In old or acute pleuritic effusions, as an excellent diuretic. The results are prompt and constant, and are superior to those obtained with any other diuretic. 2. In the first period of loss of compensation in valvular disease of the heart. It stimulates the arterial coats of these cases, and thus enhances the work of the weakened ventricle. 3. In infectious diseases in which the pulse tends to become dicrotic, owing to the relaxation of the arterial walls, and to the weakening of the poisoned myocardium. 4. The remedy is contra-indicated in all cases in which the arterial pressure is very high and the force of the heart very weak. Ernesto Pesci (Riforma Medica, November 9, 1904, from New York Medical Journal and Philadelphia Medical Journal, December 24, 1904).

BLOOD PLATELETS, ORIGIN OF.

By means of a special combination of eosin and methylene blue the authors were able to detect in blood platelets a ground substance, filled with red granules and a surrounding rim of protoplasm which stains like the red cells. The red cells, and less often the large mononuclear leucocytes, contain blood platelets inclosed in their protoplasm. There are, however, distinct differences in staining between these included elements and the nuclei of the red cells. The position in centric or eccentric and sometimes the various stages of extrusion may be observed. Various experiments made to determine the nature of the substance of which the platelets were made up, proved that this was chiefly nuclein. If two ligatures are applied to a large vessel and the stagnating blood be examined after a certain time, the bodies are not increased in number; hence they probably occur as such in the circulating blood and do not precipitate out when the blood is at rest, as has been stated. Great importance has been attributed to the fact that if sublimate is allowed to act upon blood, structures resembling platelets are formed in great number from the red cells. These are not, however, true platelets, for they can also be obtained from the blood of chickens, which never contains platelets. The above facts, together with the observation that animals whose red cells are normally nucleated do not possess platelets, makes it very probable that the latter are merely the degenerated and extruded nuclei. When the bone marrow of young animals was examined, many nucleated red cells were found, but among these was a large number whose nuclei stained like the platelets normally do, so that the various transition stages between both could be well studied. Both red cells and platelets are destroyed in the spleen, for if this organ be examined, large conglomerations can generally be discovered. The platelets are not indispensable for the clotting of blood, but, as they are degenerated structures, they are the first to show those chemical changes which are necessary for the production of clotting. K. Priesich and P. Heim (Virchow's Archiv, vol. clxxviii, No. 1, from Medical News, November 26, 1904).

BLOOD POISONING, PERCHLORIDE OF IRON IN.

The writer calls attention to the efficiency of the tincture of the perchloride of iron and chlorine in the treatment of various forms of blood poisoning. The most judicious plan is to give moderate doses, cautiously watching their effect and administering them more frequently if the patient will bear them. If not, moderate doses should be continued, and, if further antiseptic action is required, chlorine water or euchlorin internally should be given, alternately with or in the intervals between the doses of iron. The chlorine water is prepared by adding 20 grains of powdered chlorate of potassium and 1 drachm of strong hydrochloric acid to 20 ounces of water. P. W. Latham (Lancet, November 19, 1904).

BRAIN TUMOR AND TRAUMA.

The pathology of a traumatic brain growth is not different from that of a tumor elsewhere. The upright posture renders the cranium more liable to injury, and in severe traumatism the diffusion of the force increases the dangers to the brain. The direct influence of the blow is shown by the tumor appearing at the seat of injury, the cortex and the cerebellum, therefore, being the parts of the encephalon most vulnerable and most liable to tumor; but, by reason of concussion and *contrecoup,* deeper parts and parts at a distance may be affected, as proved by the clinical evidence of tumor.

The fact that the brain is so well protected from infection from without, so long as its outworks—the scalp, the skull, and the meninges—are intact, militates against the bacterial origin of tumor, and favors the belief in the cellular, nutritional, and formative element as causatives of new growth. The same variety of tumor is found here as elsewhere, though from traumatic causes (excepting cysts) sarcoma and gumma would seem to bear the greater proportion. The time of the appearance is without limit, in brevity or in duration. A completely kept history of the individual is of the greatest importance in the making of a diagnosis at the very onset of the disease, or by exclusion in the more neutral areas of the brain. E. W. Holmes (American Medicine, December 10, 1904).

BURSITIS, TREATMENT OF CHRONIC.

The operation advocated by the writer consists of puncturing the bursa, thoroughly scarifying its walls, expressing its fluid contents, bringing its walls in contact, and holding them so by means of a compress until their raw surfaces have grown together and have thus obliterated the cavity. It is especially adapted to the treatment of the condition known as housemaid's knee. An ordinary tenotome, having a long shank, or an especially devised instrument, is passed into the distended bursa at its base. With the sharp edge, its entire inner surface is marked with many fine cuts, after which the instrument is withdrawn and the bursa evacuated of its fluid contents through the small skin incision. A thick, wide pad of gauze is placed over the bursa and firmly bound down with strips of adhesive plaster overlapping one another and completely encircling the limb from an inch or two above the upper margin to the same distance below the lower margin of the bursa. Over this a muslin and a crinoline bandage are applied. A pad of cotton should be placed within the popliteal space beneath the plaster, to protect the prominent hamstring and overlying skin from undue pressure. The raw bursal surfaces should be kept in contact until firm union has occurred. Two weeks are sufficient. The adhesive plaster strips should be renewed or re-enforced whenever they appear loose; as a rule, every two or three days. No anæsthetic need be given, nor need the patient be confined to bed or even use crutches during the after-treatment. In the past nine years the writer has operated on 104 cases of housemaid's knee. In 2 the operation had to be performed twice, and in 4 three times, while in 98 it was primarily successful. The scarification must be thorough, the withdrawal of synovial fluid complete, and the compression quite firm to assure success. P. Hoffmann (American Journal of Orthopædic Surgery, October, 1904).

CALOMEL AS A POISON.

The writer states that calomel is very inconstant in its action as a poison. Guy states that 6 grains have proved fatal, while an ounce has been taken with impunity. Rungberg records a case in which three injections of 1 $^1/_2$ grains each, given within a month, proved fatal, and mentions other similar fatal cases after subcutaneous injections of small doses. The author appears to favor the theory, rejected by Guy, that calomel acts as a poison only by its partial conversion into perchloride of mercury by the free hydrochloric acid of the gastric juice. On this supposition the very small fatal doses could be explained on the theory that hyperacidity of the gastric juice converts the calomel into perchloride more rapidly than usual, though he deems it more likely that an impurity (probably perchloride of mercury) was originally present in the fatal cases. On the theory that it acts only by conversion into perchloride of mercury, the relative impunity of large doses is explained by the supposition that so soon as sufficient conversion has taken place, purgation supervenes and the remainder of the calomel is expelled unchanged. Calomel injected subcutaneously according to the theory would be converted into perchloride by the chlorides of the blood; but in this case the action of a small quantity could not cause expulsion of the remainder, hence the fatal results from small subcutaneous doses. Though appearing to have some faith in the perchloride theory, the author, however, states that little is to be feared when pure calomel is used in moderation, however the method of administration. T. L. Bunting (Lancet, November 26, 1904).

CANCER AND TUBERCULOSIS, THE ASSOCIATION OF.

Cancer and tuberculosis not infrequently occur together in an active state, and may be intimately associated in the same tissue. There is probably neither specific favoritism nor specific antagonism between the two types of disease. There are a few reported cases in which one of the affections seems to have exerted a modifying influence on the course of the other. Lupus favors the development of epithelioma. Cancer is more common among those with latent tuberculosis than among others at the cancer period of life. The common age for cancer is not the common age for active tuberculosis (Cruveilhier, 1828). The common sites of cancerous involvement are chiefly not those of tuberculous involvement and *vice versa* (Rokitansky, 1838).

A family history of tuberculosis is more frequent in the cancerous than in the general community, and there may be some hereditary relation between the two. A latent tuberculous process in a lymph node may become active when a cancer develops in the neighborhood. Lymph node enlargement in the vicinity of a cancer is not always cancerous (Claude, 1899), and may be solely tuberculous. W. A. Bastedo (Medical News, December 17, 1904).

CARBOHYDRATE METABOLISM.

From the work done to date, the author finds, like Arnheim and Rosenbaum, that all the organs contain enzymes, which may be extracted and cause the destruction of grape sugar. The pancreas shows the action more positively than any other organ. The variable results are due to many conditions working together for a decided action. In unfavorable conditions the results may be negative, although the enzymes are present in abundance. The extract which has been found to give the best results is the one made by using glycerin and alcohol. The glycerin-alcohol extract of all organs used shows by experiment the presence of pronounced diastatic enzymes as well as the glycolytic. Clinically, results are good by the administration of the glycerin-alcohol extracts, pancreas, spleen, and muscle. The best results were by hypodermic injections of combined pancreas and muscle. The peculiar action at times in the different experiments makes it quite possible that there is more than one enzyme concerned in the sugar destruction, and that at times other enzymes interfere with the glycolytic action. F. A. Rhodes (American Medicine, December 10, 1904).

CATARACT, IMMATURE, ARTIFICIAL MATURATION OF.

Complete ripening of immature senile cataracts may be safely and almost certainly secured in from three days to eight weeks by preliminary iridectomy, with trituration of the lens through the cornea and pupil, if it is done with judgment, experience, and care. The ultimate results, surgical and visual, of extraction operations in such cases are quite equal to the results of similar operations for senile cataracts which have been allowed to fully mature spontaneously. Further, the removal of such artificially matured cataracts is entirely free from those risks, drawbacks, and often impaired ultimate results which follow from the removal of immature senile cataracts. The procedure was originated by Foerster. The writer has practiced it for about twenty years with the most satisfactory results. The method is as follows: The pupil is widely dilated with a 4 grain to the ounce solution of sulphate of atropine, applied twice in the preceding twelve hours. Cocaine is used for anæsthesia. The writer usually does a preliminary iridectomy on both eyes, triturating only one. Having done a preliminary iridectomy, he lets the aqueous humor escape from the wound by depressing its posterior lip with the edge of a spoon, and then, wetting the back of the shell or silver spoon with the patient's tears, applies its convex surface to the center of the cornea, stroking the cornea in a radiating direction, at first very carefully, observing that the iris always slips away in front of each stroke of the spoon. That is to say, as the cornea goes down against the lens, the iris recedes from the center toward the periphery, before the pressure of the spoon. A nipping of the iris between the lens and the cornea often is followed by iritis. It is to be remembered that one may do an enormous amount of rubbing on the front of the cornea, but without ripening the cataract—if there be a fair quantity of aqueous humor in the chamber. The amount of trituration to be done depends: (1) on the amount of cortex that requires to be rendered opaque; (2) on the character of the cornea. If the cornea is one of those nice-looking, stand-up cornea, a good deal of trituration is required; if not, exceedingly little trituration is sufficient. After the trituration atropine is to be used within thirty-six hours to keep the pupil widely dilated. This method renders it important that the patient should be very accessible. The writer makes use of it in all cases of immature senile cataract with greatly hampered vision, and with uniformly successful results. M. M. McHardy (British Medical Journal, November 12, 1904).

CHILDREN, DIAGNOSIS OF DISEASE IN.

The author makes a series of observations upon the principles of diagnosis of disease in children, giving his opinion as to some points not usually emphasized, and also calls attention to certain factors in semeiology, to which he advises attention to be directed more generally. He claims that we have not as yet taught the undergraduate student how to apply the fundamental principles of physiology to his working knowledge of the phenomena and the natural history of disease, and particularly urges that this should include many points in embryology which ought to serve in drawing analogies of the differences between childhood physiology and the processes of the adult. We want not so much new facts as a better correlation of those already established. Many valuable truths are scattered and unrelated, and thus their utility is often obscured by being placed in large treatises and hence rarely consulted. These data should be so arranged that they shall not be omitted in estimating the foundations of reasoning in clinical medicine. Students should have no fascinating theories taught them, only facts, truths, and laws. We need teachers who shall glean the best conclusions and observations of research workers and present these to the undergraduate in a systematic fashion and in tenable formulations, unmarred by brilliant theories.

A constantly recurring error is a tendency to assume one or more symptoms as pathognomonic, and lose sight of the symptom complex. A single obvious symptom may predominate in a well-defined disease, but it may also be an expression, or feature, of many pathological processes; at other times it may be the result of previous degenerative changes, a psychosis or expression of metabolic disability, or the result of neurotic disturbance.

Teaching should be from fundamental principles of growth toward earliest evidence of change from the normal process. The governing innervation, direct and vasomotor, should be explained step by step; hence the normal variations in the blood supply, lymph circulation, cellular equipoise, and the slightest evidences of divergences from this may go so far as to merge into abnormalities, producing changes recognizable as disorder, thence passing on to structural alterations sufficiently extensive to be regarded as pathological, and finally into lesions.

When more students are trained to proceed inductively along the foundation levels of biology, embryology, and physiology, and thence ascend to pathological planes, more light will be afforded by which to apply therapeutic principles. More must be known of normal growth and the phenomena of development. He tells how those of rapid growth often fail of systematic development in several directions. Disease processes, infections, accidents of nutrition, environmental influences, all tend to initiate and emphasize minor departures from health. It is important to recognize the onset of functional derangement, and we must also always direct our attention to the even higher duty of noting morbid phenomena of the mind and morals.

It should be the aim of the clinical teacher to emphasize the urgency of obtaining the earliest possible indications or preomens of departures from normal functionations, especially in children. The phenomena of onset are too little understood or appreciated.

During the period of plasticity numerous influences prevail to alter growth and development by which the foundation of constitutional weaknesses is often laid. These are in a great measure preventable. The standard for the pædiatrist is the ideal child, a composite picture of normal children, but from this there are always many premissible variants. The subject of peculiar and exceptional children is reviewed, in whom are shown physical and psychical peculiarities. Without a fair knowledge of these, mistakes are inevitably made.

Especial attention is called to the value of palpation, used in a broader sense than that generally accepted, and a most careful estimation of states of resistance, the tone of the tissues, skin, and other structures is pleaded for, the fact being recalled that these are often of more significance in the infant than in the adult. "The hand should be laid flat down on the part quietly and gently, with a lingering touch permitting an appreciable amount of time to elapse for sense impressions to grow and become deliberately interpreted." Thus many points are revealed and organs can be better outlined than by percussion.

Few children are too young to betray, at some time or other, tension rigidities, transient or protracted, yet significant of alterations in tissue from lymph stasis, nerve irritation, or psychical exaltations or depressions. The importance of examining the tissues of the back is urged, because here much is revealed, reflected through the action of the vasomotor nerves through the posterior divisions of the spinal cord. Early and pronounced disturbances of the viscera are thus exhibited, reflected from the centers in the cord from whence the arteriomotor innervation arises, and thereby significant changes takes place. There is a compensatory relationship between the circulation of the tissues of the back, lying adjacent to certain areas and segments of the spinal cord, and the viscera. Thus the phenomena of disease can be studied from the standpoint of the central nervous system and also, as ordinarily done, along the line of peripheral phenomena. Thus one avenue of exploration is supplemented by the other.

The principle on which this method of diagnosis is founded is upon well-established facts familiar to physiologists, but not yet applied by clinicians. Relaxation of the lateral and posterior spinal ligaments, due to nutritive faults, produces often the appearance of dislocation, curvatures, etc., apparent rather than real, and these phenomena disappear by restoration of the tonus of the temporarily altered tissues. Thus any agent which causes vasoconstriction in the tissues of the back near the spinal column will produce, conversely, by the law of compensation, dilatation of the vessels in the cord, and of the organs and parts beyond the line of innervation. It is plain to the perceptive hand that these muscles are affected and according to definite laws of innervation, showing conclusively that where certain organs or parts are deranged the corresponding muscles will show definite changes.

The article closes by a summary of the changes to be ascertainable by the x-rays. It is to be continued at a future time. J. Madison Taylor (Medical News, December 17, 1904).

CONSTIPATION, DIETETICS IN THE TREATMENT OF.

The treatment of habitual constipation has to begin with: 1. The correction of bad habits. 2. Regulation of the diet. The object of the diet is to avoid concentrated animal food and to favor the vegetables rich enough in coarse fiber to make sufficient bulk for the physical stimulation of the intestines, and rich in elements for the formation of organic acids for the chemical stimulation of the intestines. 3. The liberal use of water, at least six to eight glasses in twenty-four hours, should not be forgotten.

If these principles are followed, it is not difficult at all to make up a diet for the patient. In very pronounced cases of faulty habit and diet their correction may be sufficient. But in most cases food stuff especially rich in bulk and organic acids will have to be selected.

As an example of such a diet, a breakfast may consist of fruit, some cereal with cream and sugar, but no commercial predigested foods, as "Grape Nuts" or "Force." Rye bread, with much butter; besides this, some meat or eggs. For dinner, besides soup, and meat or fish, plenty of green vegetables, as spinach or cabbage, beets, turnips, potatoes, beans, peas, and again rye bread and butter; as dessert, a saucer of prunes, but it may change off with some pudding. Supper should be rather light, and may consist of cold meat, rye bread and butter, and some stewed fruit; again prunes and plums preferred.

The success of such a treatment is very remarkable, and results are seen in a few days even in cases of long standing. Of course, in such cases, the writer prefers a combination of dietetic and physical therapeutics, especially electricity. This combination will give most brilliant results, but the dietetical treatment will have to remain the fundamental one, without which success will hardly be obtained. Sigismund Cohn (Journal of Advanced Therapeutics, December, 1904).

CORNEAL THERAPEUTICS.

The low temperature of the normal cornea (about 18° F. below body temperature) inhibits the growth of pyogenic micro-organisms, and the continuous closure of the lids from photophobia or the use of bandages raises the temperature to a point not conducive to repair, but conducive to bacterial growth. In the treatment of corneal abrasions or ulcers, therefore, the photophobia should be specially attended to, and the use of bandages avoided. Cocaine ointment is excellent to combat the photophobia. The removal of photophobia restores the very important function of winking, by means of which the wound is cleansed of germs and their poisonous products. A. McGillivray (British Medical Journal, November 12, 1904).

DIAPHORESIS IN OPHTHALMOLOGY.

The greatest utility of diaphoretics is in the acute congestive and exudative lesions of the uveal tract. They are useful in retinal detachment produced by exudate from choroidal vessels during the course of acute choroido-retinitis. Judging from reported cases, they are also useful in the retinal detachment of high myopia. It is doubtful if restoration of function in the detached retina is useful or permanent. Diaphoretics are useful in alcohol-tobacco amblyopia and probably in other forms of toxic blindness. They influence to a slight extent only, if at all, lesions of the cornea and sclera, and are useless in atrophic and cicatricial lesions. Hiram Woods (Journal of the American Medical Association, December 24, 1904).

DIPHTHERIA, LESIONS OF THE KIDNEY IN.

The writer records a large number of observations of the urine of diphtheritic children with a smaller number of microscopical and macroscopical examinations of the kidneys of patients dead from diphtheria. In only 22 cases was it possible to measure accurately throughout the illness the amount of urine passed. In half these cases the amount was normal, in the other half it was diminished. This diminution was not usually very great. In 4 cases out of more than 300 there was suppression of urine, and all 4 proved fatal. The diminution in the amount of urine varied irregularly, and sometimes returned after normal quantities had been passed for several days. In 10 of the 11 cases oliguria was accompanied by albuminuria, and when the urine became more plentiful the albumin showed a tendency to disappear. Usually a diminution in the amount of urine was accompanied by a still better marked increase in the specific gravity, which in 3 cases was observed to be 1.030 or 1.031. The author attributes the increase of specific gravity to an excess of urea, partly from the febrile process, but chiefly due to the antidiphtherial serum, being the result of the serum itself and not of the antitoxin contained in it. Observers differ as to the effect of the injection of antitoxic serum on the amount of urine secreted, and the author considers that it produces no effect in either direction. It is noted that phosphaturia was very frequent, and often very well marked, but that subject is not further investigated. Albumin was found in 32 out of 70 cases in which a systematic daily search was made of it. It often appeared on the fourth day, but might not be found until as late as the seventeenth day. When present at all it usually lasted several days. Out of the 32 cases, 20 were cases with severe toxæmia. Severe cases without albuminuria were rare, and so were very slight cases with albuminuria, but there were examples of both these kinds. The author's proportion of cases with albuminuria is much lower than that given by some other observers—notably those whose statistics deal with cases occurring before the introduction of serum therapy. The author dwells on this fact in opposition to the prevalent opinion that either directly or indirectly serum therapy has caused an increase in the number of cases with albuminuria. A further fact bearing on the question is that the author has frequently noted the disappearance of albumin from the urine on the day following injection.

Acetone was found in 20 out of 30 cases in which it was looked for systematically, and in many of these cases it was abundant. It may be present only once, or there may be acetonuria for as long as sixteen days. The author adopts Bottazzi's theory that the diphtherial toxin circulating in the urine infiltrates the protoplasm of the cells, increasing the disintegration of their proteid constituents, and at the same time hinders the complete oxidation of the results of this disintegration, so causing azoturia and acetonuria. Like albuminuria, acetonuria has a tendency to diminish or disappear very soon after the injection of antidiphtherial serum.

The author attaches very great importance to the examination of the urinary sediment, and states that the presence of morphological elements in it is the distinguishing characteristic of the urine of those suffering from diphtheria. Out of 70 cases, there were only 8 in which he failed to find such elements. Thus, they were present in 32 out of 38 cases in which there was no trace of albumin from first to last, as well as in all the 32 cases in which albumin was found. These elements were, in the great majority of cases, leucocytes and renal epithelium cells. Often bladder cells were found, very rarely granular or hyaline casts. The leucocytes were granular and refracting, often showing no nucleus. They may appear in masses of varying number and size. The renal cells are usually in good preservation, but may be swollen and granular. These results are, according to the author, confined to diphtherial urines, and are practically never found in other febrile diseases, such as bronchitis, pneumonia, enteric. They usually last for at least a week, and sometimes almost for a month. They must be taken as an index of the severity of the renal lesion.

From the histories of 11 cases the author deduces that the kidneys are almost always injured in an attack of diphtheria, and that the degree of the renal change depends on the severity of the attack rather than on the stage which it has reached. The renal changes are very strictly proportional to the severity of the intoxication. The changes fall mainly on the renal parenchyma, where the epithelial cells are swollen and granular, and the nuclei stain badly. Sometimes there is a leucocytic infiltration of the parenchyma, not usually of a very severe nature.

Hæmorrhages are very rare. In very mild cases (fatal through some accident, such as laryngo-stenosis) changes may be confined to the epithelium of the convoluted tubules. In more severe cases the change involves also, first, the ascending limbs of Henle's loop, and in the most severe cases the glomeruli also may be involved. The collecting tubules almost always remain unaltered. The diphtheria toxin has a special predilection for the renal epithelium, and leaves the renal vessels almost immune.

These microscopical observations on the kidney agree with the results previously described which the author arrived at by examining the urinary sediment. Probably it is mainly by the epithelium of the convoluted tubules that the toxin is excreted. The author suggests, since the toxin is excreted by the epithelium of the tubules, probably the glomerular changes noted in some severe cases are not caused directly by the diphtheria toxin, but by some nondiphtherial micro-organism circulating in the blood. Mario Flamini (Il Policlin., September, 1904, from British Medical Journal, November 19, 1904).

DUODENAL ULCER AND ITS TREATMENT.

Duodenal ulcers are not very uncommon. As far as the writer has seen them, they are single and more frequent in men than in women. Perforation may take place and acute symptoms appear, or they may heal, and by cicatrization lead to symptoms of chronic duodenal obstruction. The sequelæ of a healed ulcer may be so remote that the symptoms are mistaken for those due to cancer of the pylorus, and the patient is allowed to drift from bad to worse under the erroneous notion that he is bound to die. There is no means of recognizing the existence of a duodenal ulcer, in a great many cases, until it perforates or until the results of its cicatrization become manifest.

The treatment of duodenal ulceration consists in the direct suture of a perforated ulcer, the prognosis being less favorable than in similar cases of perforation, and the performance of gastrojejunostomy in cases of dilated stomach due to duodenal constriction, the prognosis being the most favorable of all the conditions for which this operation is performed at the present time. D'Arcy Power (British Medical Journal, December 17, 1904).

DYSPEPSIA, CHRONIC, SURGICAL CURE OF CERTAIN CASES OF SO-CALLED.

The majority of cases of so-called "chronic dyspepsia," "gastralgia," "nervous gastralgia," "neuralgia of the stomach," "cardialgia," and "hyperchlorhydria" are, in fact, cases of ulcer or the organic consequences of ulcer of the stomach or duodenum, or of both.

Cases presumably amenable to medical treatment should be cured in from five to six weeks, after which time, if not cured, they should be placed in the surgical category, while hæmorrhagic cases should be operated upon without the delay prescribed by medical writers.

Surgical ulcer of the stomach, if neglected, may develop adhesions, perforations, hæmorrhages, or cancer, or, in the absence of these, may provoke sepsis and anæmia, which, if uncorrected by operation, may prove fatal.

It is important, therefore, that the cases should be promptly brought to operation, which, without reference to details, should establish rest and maintain drainage for the diseased organ. The comfortable after-course of these cases, the low primary mortality, and the permanent curative results following the operation comprise its complete justification. C. A. L. Reed (Cincinnati Lancet-Clinic, November 26, 1904).

EMBOLISM FOLLOWING OPERATION.

Thrombosis and embolism are more common after operations in the pelvis than after operations in any other part of the body. It is possible that many cases of pleurisy, pneumonia, and pulmonary abscess following operation are due to emboli. Large emboli almost always cause speedy death by syncope or asphyxia; very small emboli usually run a favorable course. Any sudden increase in pulse rate during convalescence, temperature remaining about normal, should remind us of the possibility of thrombosis. If there are evidences of phlebitis or thrombosis, rest must be absolute. S. S. Dearborn (Annals of Gynæcology and Pædiatry, November, 1904).

ENDOCARDITIS, INFECTIVE, COURSE OF.

In addition to the pyæmic and the typhoid types of infective endocarditis, there is a third and important one, the cardiac type. In this type the duration may be comparatively long—months rather than weeks. It is often difficult to decide whether the cardiac symptoms are entirely due to old fibrosis of the valves, or whether there are fungating masses on the valves as well. Probably the additional symptoms most suggestive of the latter are some pyrexia, multiple emboli, splenic enlargement, and progressive anæmia.

There is no sharp line of demarcation between simple and infective endocarditis; so that whereas some cases of endocarditis are slight, and recover soon, and others are very severe, and die soon, a third group are on the border-line between the two, and may continue doubtful as to their prognosis for weeks and months; and may even recover when they seemed certainly to have fungating endocarditis.

Pyrexia in the ordinary sense is not necessarily present, although the patient is suffering from fungating endocarditis, in which connection it is most important to remember that the natural body temperature in cases of old valvular heart disease may be as low as 96.6° F.; so that what may be normal temperature in normal subjects may be actual pyrexia in them. Herbert French (Practitioner, December, 1904).

ENTERITIS, TRAUMATIC.

Mucous enteritis is a syndrome, acute or chronic, characterized by constipation, the passage of glairy mucus, and by paroxysmal crises. It is commonest in women, and is doubtless greatly influenced by heredity. The writer reports three cases, in two of which recovery was only partial and not permanent. The third case terminated favorably. All were marked by constitutional depression, nervous symptoms, and hysteria. The first two cases were caused by strong lifting movements, the third by a fall, the traumatism affecting the region of the cæcum or colon. The author's treatment is tonic by iron, strychnine, and arsenic, the last under the form of sodium cacodylate; gently laxative by licorice powder, sulphur, castor oil; antispasmodic, by cannabis Indica. An old remedy, buckthorn, has proved valuable. Intestinal lavements may be required in fœtid diarrhœa or putrid fermentation. In pain the opiates should never be used, but mustard plasters, hot compresses, etc. The diet should be that usually prescribed in hyperchlorhydria. Gentle massage of the abdomen, warm baths, rest in the open air, and suggestive therapy are all valuable. Vinay (Lyon Médical, October 30, 1904).

EPILEPSY, DENTITION IN.

Difficult dentition—*i.e.,* the piercing of the gums by the tooth—may, in suitable subjects, constitute a sufficient irritant to cause convulsions. In suitable subjects these convulsions may ultimately lead to epilepsy. By "suitable subjects" the writer means infants who inherited a neuropathic tendency to disease; whose parents had epilepsy or insanity, or who were alcoholic, or suffered from some other general vice that could be transmitted to the offspring in some form capable of vitiating its powers of resistance to disease. The writer does not believe that difficult dentition alone in a child who inherited no ancestral taints, and who at its birth is free from a tendency to nervous disease, can cause epilepsy. Great caution must always be exercised to lay the true cause in cases of this kind where it belongs; for the reason that gastro-intestinal disorders, the séquelæ of the eruptive fevers and other factors common at this age, may produce similar results. W. P. Spratling (Medical News, December 10, 1904).

EPILEPSY, TREATMENT OF, IN CONNECTION WITH AUTO- AND HETERO-TOXIS.

Besides every measure that will favor elimination, the dietary should be regulated so that the idiosyncrasies of the individual should be taken into account, but nitrogenous food should be interdicted as far as possible. No large quantity of food shall be taken at any one time. If intestinal autotoxis exists, cholagogues and appropriate ferments, as well as antiseptics, shall be prescribed. Everything should be done to prevent the lighting up of gross intracerebral pathological processes, and the resulting formation of cholin. The equilibrium of the arterial pressure should be everywhere maintained. The bromide should be given only in doses sufficient to diminish the activity of the cortical motor cells. A. McL. Hamilton (Medical Record, December 3, 1904).

EPILEPSY, TREATMENT OF, WITHOUT DRUGS.

The writer's experience in investigating the causes of epilepsy for nearly twenty years lead to the conclusion that epilepsy is not necessarily an organic disease; hence there is always hope of a radical cure. A very large proportion of epileptics suffer from some type of reflex, viz.: ocular, abdominal, genital, or other local sources of nervous irritation. Of these reflexes, the eyes are unquestionably the most frequent seat of trouble.

No medication should ever be employed to control epileptic convulsions until every possible exciting cause has been intelligently sought for and scientifically combated. The refraction of all epileptic patients should first be carefully determined under the influence of a mydriatic. The author usually employs homatrophine to dilate the pupils and to relax the accommodation. If in doubt after this step, he invariably uses atropine. Such tests are positive. Many instances have been seen where a total cessation of fits for weeks has been caused by the use of atropine in the eyes. Furthermore, the effect of paralyzing the accommodation is often of great aid in getting a patient to accept a strong hypermetropic glass for constant use.

It is usually advisable first to correct fully the refraction of epileptic patients by properly prescribed glasses, and to have the patient wear them for a time, before positive conclusions are arrived at regarding any maladjustments of the eye muscles (heterophoria.) A large proportion of epileptics unquestionably suffer from heterophoria. After the correction of errors of refraction by glasses for a time, the tests for maladjustments of the eye muscles should again be made. Such tests will then be far more reliable and trustworthy than if made before the refractive errors have been intelligently corrected.

The author considers that the prescribing of glasses to correct errors of refraction is vitally important in the treatment of eyestrain. It should always be done most accurately and scientifically. It is imperative to do this first; and to have patients wear glasses for refractive errors constantly for some time (whenever marked muscular errors exist) in order to determine if they are modified by the refractive correction. Refractive errors may cause apparent heterophoria in a certain proportion of cases; and proper glasses may sometimes modify genuine heterophoria. There is indisputable proof that genuine heterophoria may coexist with refractive errors (as an independent source of eyestrain), and it may also be found in cases where absolutely perfect refraction exists.

One radical and permanent cure of genuine epilepsy without drugs offsets a thousand failures as proof of a scientific discovery. Modern instruments and modern methods of eye testing are indispensable to the eye treatment of epilepsy. The most serious refractive errors and muscular defects in the orbits do not necessarily create eye symptoms; even when reflex symptoms produced by existing eye defects are extremely severe.

The percentage of cure of chronic epilepsy under skilled eye treatment will naturally be modified greatly by the abnormal eye conditions found, the physical condition of the patient, the amount of drugs that have been given to the patient, and the complications that may coexist with eyestrain. No one is ever justified in promising to an epileptic a complete cure of epilepsy by any method of treatment. Such promises are only made by quacks, or by irresponsible and uneducated persons. The general concurrence of medical opinion is against the curability of epilepsy by drugs. Fits may be thus held in check for long or short periods; but permanent cures of epilepsy after a complete cessation of drugs are practically unknown.

To colonize epileptics or to place sufferers of that type in private sanitariums without any investigation of their eyes and eye muscles cannot be too strongly condemned, in the author's opinion.

The total percentage of epileptics who suffer from eyestrain as an important factor is very large, after first deducting from the total number the comparatively small number of cases that owe their epileptic seizures directly to some organic lesion of the brain or to a depression of the skull. Almost all chronic epileptics give a history of falls that have at some time injured the head in some way. Few of them, however, have enough depression of the skull to make trephining imperative, and in every such case the injury must have preceded any epileptic seizures to make it probable that the fits were the direct result of the injury.

The duration of eye treatment in epilepsy varies from three months to three years. Most of the work is done during the first six weeks; but long intervals of rest, between the sucessive operative steps that are commonly demanded, often extend the period of treatment over quite a long period whenever the convulsive seizures are not totally arrested. A. L. Ranney (New York Medical Journal and Philadelphia Medical Journal, December 3, 1904).

GASTRO-ENTERITIS, BUTTERMILK IN.

Infants with severe gastro-intestinal troubles improve to a remarkable extent when put on buttermilk. In 22 cases of acute gastro-enteritis, including 8 very severe ones, all the children recovered rapidly, as also 3 adults with muco-membranous enterocolitis and a large number of children with chronic gastro-intestinal troubles. The toxi-infectious symptoms vanished in the acute cases in less than twenty-four hours. Decherf (Semaine Médicale, vol. xxiv, No. 44, 1904).

GOUT, ETIOLOGY AND PATHOLOGY OF.

Heredity, overindulgence in malt liquors, poor food with bad hygienic surroundings or overeating with insufficient exercise, and lead intoxication are undoubtedly important predisposing etiologic factors in the production of gout. An analysis of 54 cases treated in the medical wards of the Johns Hopkins Hospital shows that the overuse of fermented beverages seems to be the most potent factor in this country. Gout in the United States appears, therefore, in the majority of cases to be acquired, or "freehold," rather than "copyhold," or inherited.

Studies of the metabolism in gout have as yet afforded no satisfactory explanation for the causation of the disease. There seems very little doubt but that it is due to disturbance in the metabolism of the "endogenous" and "exogenous" purins. As yet there is not sufficient experimental evidence to warrant the abandoning of the theory that the manifestations are in large part due to disturbances in uric acid metabolism. Practically all researches agree in showing that the blood in gout contains a marked excess of uric acid, and the balance of opinion is in favor of the view that this excess is due to deficient excretion on the part of the kidneys. The alkalinity of the blood apparently is not diminished, as Garrod supposed.

The joint manifestations are essentially due to the deposition of the uric acid combinations of the blood in the form of the crystalline sodium biurate. Whether a local tissue necrosis is primary or secondary to this deposition is a question still in dispute. Nephritis, usually of a chronic interstitial type, arteriosclerosis, myocarditis, pericarditis, and emphysema are the other most frequent pathological findings. T. B. Futcher (Journal of the American Medical Association, December 3, 1904).

IMMUNITY, INHERITED, INSTEAD OF INHERITED PREDISPOSITION.

The writer has been much impressed with the variations in the frequency and virulence of the affections noted among various races. Others have explained this by "inherited predisposition," but he thinks that a much better explanation is an "inherited immunization." His idea is that all infectious diseases have a tendency to diminish in virulence. Diseases pass through three phases: The miasmatic phase,—that is, when they are transmitted by insects able to travel over considerable territory. Then, as they become less malignant, they can be transmitted only by direct contact, and they are called "contagious." Then, as they become still less malignant, they require still more intimate contact for transmission, and are termed "venereal." All infectious diseases are destined to disappear gradually from the earth, but they retire in good order, obedient to these laws of becoming more benign, more infrequent, and more venereal. The cradle of a disease should be sought, therefore, in races which have passed through these stages and have acquired an inherited immunity, so that these races are most exempt from the disease. Immunization by saturation with the virus does not seem to impair the general health. "Nature strikes with her hand, but cures with her feet." The author calls attention to the amazing immunity of the natives of Mexico to syphilis and to wound infection. Their bare legs always have some scratch or sore, and these small ulcerations in time have induced an immunity to wound infections. The author thinks that their immunity to syphilis is also due to inherited immunization. There is an extremely mild venereal affection observed among them, and this, he thinks, is the relics of malignant syphilis in preceding centuries. It is liable to transmit malignant syphilis to foreigners. Diseases can be exterminated only by inherited immunization. This theory explains the successes of serotherapy. O. Effertz (Janus, vol. ix, No. 9; Journal of the American Medical Association, December 17, 1904).

INTERMITTENT CLAUDICATION.

Intermittent claudication is a far more frequent symptom complex than generally recognized. It is doubtless frequently and freely confounded with sciatica, neuralgia, and rheumatism. Careful and detailed inquiry into the symptoms which usually come on while walking and are absent when at rest, together with their intermittency, should lead to a suspicion of the diagnosis; this will be made absolutely by finding that pulsation is absent in one or more distal arteries (dorsalis pedis and tibialis posticus) of one or both legs. The pain is of vascular origin and due to an arteritis plus—in many cases—angiospasm of the affected vessel.

The various internal viscera may suffer from such an angiospasm when their vessels are sclerosed, the most prominent prototype being the heart in the common condition, angina pectoris. Total occlusion of the vessels, as occasionally found in intermittent claudication, may lead to gangrene of an extremity. Early recognition is essential, in order, by appropriate treatment, to prevent this dire and frequent complication. A. J. Patek (Medical News, December 3, 1904).

INTERNAL HÆMORRHAGE.

It is necessary to bear in mind that the direct indications for treatment vary with the individual case. These indications include the source of the hæmorrhage, the condition of the circulation, and the amount of blood lost. In cases of total collapse, alcohol and strychnine should probably prove of value. Fainting from loss of blood may not in itself be an indication for medical treatment, for the value of this condition in inducing thrombosis is known.

The use of the vegetable and mineral astringents in those cases in which the bleeding point can be reached directly is highly illogical. The same is true of the use of the mineral acids. Aconite approaches the action of this group on the circulation, without the untoward local effects.

Ergot seems distinctively harmful in pulmonary hæmorrhage, and from its action can scarcely prove of any value in other than uterine bleeding.

Hydrastis has some value in similar conditions. The susceptibility of the splanchnic area to vasomotor influence might be utilized by administering hydrastis and strychnine in bleeding of this region.

The author has never seen noteworthy or conclusive results follow the employment of gelatin or calcium chloride. Normal salt solution is undoubtedly a valuable agent, and immediate response often follows its use. Poor success has attended the use of suprarenal extract administered for its internal hæmostatic effect, and the author believes that the indications for its employment are distinctly local.

There is great reliance to be placed on rest and quiet for the patient who is bleeding, and often this will suffice. Collateral measures, ligation of the limbs, change of posture, etc., are of great service. Next in importance should be placed morphine to induce quiet. In those patients whose circulation is powerful, aconite is of unquestioned value. In gastric hæmorrhage there is a great tendency to employ the astringents. It is well to mention the possibility of their reaching the bleeding point, the stomach being filled with blood and often with partly digested food. Suprarenal extract, while at times serviceable in such conditions, may fail for the same reason. Many of the drugs advised are nauseous and should be especially avoided; emetics or drugs disturbing the stomach are only likely to cause increased bleeding, owing to the physical strain of the emesis. T. L. Coley (Journal of the American Medical Association, December 24, 1904).

IRON, THERAPEUTIC VIRTUES OF.

In the present state of combined scientific and clinical knowledge the general results of all collective research on the internal administration of iron go to show that, while the preparations of this metal form a practically specific means of cure in the anæmia of chlorosis, they are not so fully to be relied on in the management of other varieties. Clinical evidence also goes to prove that, in order to obtain the full benefit of its blood-making powers, free action of the bowels must be maintained throughout; and that they are most effectively grasped when the administration of iron is combined with that of arsenic. The other actions of iron salts which have from time to time been utilized in clinical medicine are well known in a general way to all practitioners, and are not of sufficient importance to the present state of our knowledge for any critical discussion. The antiseptic value of ferrous sulphate is still recognized; and it was probably some foreshadowing of such property which brought Velpeau—long before the scientific establishment of antisepsis—to announce its efficacy in the treatment of erysipelas; locally as an ointment and a lotion, and internally as a general tonic remedy. Also the dictum of the famous syphilographer, Ricord, that the "tartrate ferrico-potassique" was "the born enemy of phagedæna," in the treatment of which he used this salt both locally and generally, owed its genesis pretty surely to some corresponding revelation of the light to come.

The hæmostatic (coagulative) powers of some of the ferric salts, and the mildly caustic action of a few of them, are familiar to all practitioners. So are the application of freshly precipitated ferric oxide as an antidote to arsenic, and the more or less satisfactory endeavors which have been made from time to time to prepare iron compounds in such a way as to insure their absorption by the gastro-intestinal mucous membrane without the production of digestive disorder or constipation. John Knott (American Medicine, December 17, 1904).

LEUCOCYTES, THE DIAGNOSTIC VALUE OF.

A routine enumeration of the white cells in the peripheral blood is of sufficient importance to be made a regular procedure so far as possible in all cases. A single leucocyte count is entirely insufficient as a basis of conclusion in any given case, and should be followed up by several made under different conditions. An increase beyond ten or twelve thousand leucocytes in the peripheral blood indicates varying grades of intoxication, with chemotactic substances of some sort or another. Whether it indicates suppuration or not is a question to be determined by carefully weighing all the facts in each case. The leucocytes indicating suppurative and allied processes are of the neutrophile type.

The eosinophile form of leucocytosis indicates among other things, and perhaps principally, cutaneous or parasitical diseases in the intestine or elsewhere. Lymphocytosis clinically signifies an irritative lesion of the lymphatic apparatus. A differential count should be made in all cases to determine the type of cell which has been the subject of the principal increase where such increase exists, and such records carefully kept and collated as a basis for the determination of the clinical significance of leucocytosis in the future. In the diagnosis of malignant disease a leucocytosis is of very subordinate value, and when present is probably not due to the malignant disease, *per se,* but to co-existing chemotactic toxins. G. W. McCaskey (American Journal of the Medical Sciences, December, 1904).

LEUKÆMIA, ROENTGEN RAYS IN THE TREATMENT OF.

Under treatment with Roentgen rays some cases of leukæmia undergo marked change for the better. The leucocytes fall to normal numbers and sometimes show no more pathological cells, the red blood corpuscles improve, the enlarged spleen and lymphatic glands resume normal proportions, and the general health seems restored. In some cases the effects are imperfect.

In no case has observation been carried out long enough to speak of cure. In several cases death has occurred while the symptoms seemed to indicate improvement. The mode of action of the Roentgen rays is not known. It probably consists in affecting the tissues that produce the pathological leucocytes, either directly or more probably through the production or setting free of substances that affect cell formation, or degeneration, or chemotaxis, or all of these processes; but further investigation is necessary. At present the improvement must be considered functional, and not affecting the original cause, nor in a permanent way the morbid histology of the disease. The improvement of the red blood cells may be due to general stimulation of nutrition, in which suggestion may have a part, or by diminution of lymphoid or myeloid tissue, and thus permitting development of red cells, as suggested by Ahrens.

Though the change seems a functional one, it is possible that treatment in very early stages may be more effective than it has hitherto been.

Roentgen ray treatment of leukæmia is dangerous on account of the usual risk of dermatitis and burns, but probably also on account of toxic processes as yet impossible to explain. No stronger claims can be made for it than can be made for arsenic and certain serums and bacterial toxic substances, but it may prove more certain in its action than arsenic and can be more readily applied in practice than the injection methods. Careful observation and recording of all cases in which the treatment was followed promise advances in our knowledge of leukæmia, with the possibility of gains in practical therapeutics.

No special rules can be laid down at present for treatment with Roentgen rays. Great care should be taken to avoid burns. Methods should be as fully described as possible in each case; the blood should be carefully examined as fully and as frequently as possible, and, if possible, urine examinations should be made, to throw additional light upon the metabolic changes. George Dock (American Medicine, December 24, 1904).

MAMMARY GLAND, CARCINOMA OF THE.

Cancer is not only increasing in frequency, but in doing so is breaking down barriers hitherto recognized. It occurs more frequently than formerly in young subjects, and has become common in races at one time immune.

When affecting young subjects the prognosis is distinctly less favorable, as the lymphatics are both numerous and patent, whereas in the aged many lymph vessels atrophy.

An early diagnosis should be made, and no time lost in waiting for an operation, as metastases to the axillary glands and internal organs occur early, often before they are suspected. In 9 per cent. of all cases it is impossible to make a clinical diagnosis.

When in doubt as to malignancy a complete operation should be arranged for; but before removing the breast an exploratory incision should be made into the growth, and a piece from near its center submitted to a competent pathologist, who, as a rule, will give an accurate report in ten minutes. If malignant, a complete operation should be done immediately. In women past 40 the chances in favor of malignancy are as 13 to 1, and should, therefore, be assumed.

Carcinomata of the sternal hemisphere are less common than similar growths in the axillary half of the gland, but are probably more frequent than they are thought to be. The prognosis is worse in them than in cancers of the axillary hemisphere.

Recurrences being usually in the skin, its removal cannot be too free. Skin grafting, or closure of the wound by plastic flaps,—the preferable method,—will frequently, if not usually, be necessary.

The pectoral muscles, major and minor, should always be removed, regardless of infection, so that all diseased tissues can be removed in one piece, and the axillary dissection both more thoroughly and safely made. Their loss neither increases the mortality, lenghens the convalescence, nor seriously impairs the subsequent usefulness of the arm. The supraclavicular glands should be removed if palpably enlarged or if the top-most axillary glands show macroscopical involvement; otherwise their removal is unnecessary.

Wounds of the axillary vessels have been infrequent since the muscles have been removed as a routine practice. When occurring in an aseptic operation they have always been recovered from. Of 24 deliberate resections of the axillary vein none were fatal. Moreover, the œdema following was inconstant and transitory, and never a troublesome symptom. Drainage should always be made.

The three-year limit of Volkmann is insufficient, and should be extended to at least five years. Recurrences may occur after ten or more years.

The operative mortality in 2133 operations performed since 1893 by twenty-one American surgeons reporting to the writer was less than 1 per cent. This seems almost incredible when contrasted with the 15 to 25 per cent. mortality for incomplete operations on the breast in pre-antiseptic days. Radical operations, if early, should give more than 50 per cent. of cures. W. L. Rodman (Medical Bulletin, December, 1904).

METABOLISM, DISEASES OF THE SKIN CONNECTED WITH ERRORS OF.

Metabolism represents the changes occurring in the system whereby nutritive materials and oxygen are transformed into living tissue, and retransformed into waste products, while, during these processes, their potential energy is being given off in living force and heat. As healthy cell action and transformation is produced and maintained by perfect metabolism, so when there is perverted metabolism the structures in various parts of the body must suffer, and this is called disease. As every cell in the body constantly takes up and gives off material, so the results of metabolism can be affected by the normal or abnormal action of every living cell in the organism.

Metabolism is, however, principally affected by (1) the kind of nutriment taken; (2) the action of the digestive organs and ductless glands, and (3) the action of the nervous system. Certain skin lesions, or eruptions, have been credibly reported as connected with or dependent upon the generally recognized metabolic conditions of (1) gout; (2) rheumatoid arthritis; (3) diabetes; (4) obesity; (5) scrofulosis. As yet no absolute statements can be made as to the necessary connection of the two, for the same eruptions occur in several of the metabolic affections.

The idiosyncrasy of the patient, and many causative elements, external or internal, nervous, etc., often determine which form of skin disturbance or alteration shall take place. Errors of diet, disorders of digestion, faulty excretion, and nervous derangement, which have all along been recognized as causative elements in many diseases of the skin, often find their ultimate expression or mode of action through the faulty metabolism induced thereby.

Metabolic errors are exhibited in the excreta from the lungs, skin, intestines, and kidneys; and, of these, the urine best affords a satisfactory indication, as it represents nearly one-half of the total excreta, and practically all of the nitrogenous and soluble mineral substances, together with about one-half of the water expelled from the system. Complete and minute urinary analysis is a very great aid in discovering metabolic errors, and in establishing proper therapeutic measures for the cure of many diseases of the skin. L. D. Bulkley (Medical Record, November 26, 1904).

MILK DIET, INFLUENCE OF, ON THE CIRCULATION.

The effect of an exclusive milk diet on the circulation of a healthy person investigated, and some interesting conclusions drawn as to the effect of this diet on the blood pressure. The only work thus far published on this question is that of Maximovitsch and Rieder, who found that the ingestion of large amounts of certain fluids raises the blood pressure. This they found especially to be true of beer, and next to this of wine, coffee, tea, milk, cocoa, and water. The writer, however, does not concede the correctness of their conclusions and believes that the instruments which they used were inaccurate. He used Mosso's accurate sphygmomanometer, which graphically records the blood pressure. In a former paper (1899) he showed that the frequency of the pulse and the height of the blood pressure are inversely proportionate to each other. During digestion after meals, the blood pressure is lowered, owing to the dilatation of the abdominal vessels, and at the same time the pulse rate increases, the respiration becomes more frequent, and the temperature rises slightly. The ingestion of large amounts of milk elevates the blood pressure at first, owing to the mechanical presence of increased fluid, and not owing to the simple vasomotor effect of digestion. At the same time the pulse rate is increased, owing to the necessity of the heart to drive more fluid through the arteries, but the temperature is not elevated perceptibly, owing to the lessened heat production in the blood as the result of increased fluid. After the milk has been absorbed, however, there is a slight rise of temperature and a fall of blood pressure. This depression of the blood tension is due to the fact that milk induces diuresis, and is eliminated more rapidly than is necessary to maintain the balance of the organism. Carlo Colombo (Riforma Medica, November 2, 1904, from New York Medical Journal and Philadelphia Medical Journal, December 10, 1904).

MYOCARDIUM, DEGENERATIVE CHANGES IN THE.

In the early course of toxic diseases, sepsis, and cachectic conditions, acute parenchymatous myocarditis is more than apt to develop; should the toxæmia continue the cloudy swelling usually develops into a fatty degeneration. Persons suffering from fatty or parenchymatous degeneration of the myocardium should have their blood pressure watched very carefully so that it may be kept low. Sudden cardiac exertion or sudden rise of blood pressure is prone in especially fatty degeneration to cause acute dilatation of the heart, resulting either in death or serious cardiac disease.

In all the autopsies of fatty degeneration and infiltration the valves were in a normal state; this is an important factor to be remembered in making diagnosis of cardiac lesions. Fatty hearts are normal or under size generally, and often are associated with atheromatous changes and cerebral apoplexy.

Nephritis or poor renal elimination is prone to produce fatty degenerative changes. Chronic diseases which cause an interference with the proper oxidation of the blood cause fatty degeneration of the myocardium. Raymond Clark (Brooklyn Medical Journal, December, 1904).

NERVOUS THROAT PAIN.

A not unusual class of patients comprises otherwise healthy and not neurotic individuals who complain of more or less constant pain in the throat, which is increased on swallowing. Examination of the throat reveals no satisfactory explanation, for the slight chronic catarrhal condition usually present is not sufficient to account for the symptoms. By palpating the neck, however, two localized painful spots will commonly be found, one over the point of emergence of the superior laryngeal nerve through the thyroid membrane, and the other above the clavicle over the recurrent laryngeal nerve. Pressure on these spots causes the throat pain to be felt, and the author considers that the condition is due to neuritis of one or both of these nerves. Treatment consists in massage of the painful regions in the neck, and is usually effectual. In the few cases in which it fails, other plans of treatment usually are also without result. The catarrhal condition which probably forms the starting point of the neuritis should, of course, receive the usual treatment. Boenninghaus (Deutsche medicinische Wochenschrift, November 10, 1904).

OBESITY.

The writer insists on the constancy of dyspeptic troubles in the obese. A number of cases have been observed in which the patients suffered with diarrhœa, and whose weight increased in spite of the chronic diarrhœa. The cessation of the bowel disturbance after appropriate treatment was accompanied by loss in weight. These apparently paradoxical facts are explained on the ground that the weight is regulated by the nervous system whose mechanism may be disturbed by any diseased condition whatever. The necessity of decreasing the weight slowly is insisted upon, since a rapid loss in weight depends more on dangerous dehydration of the tissues than on the loss of fat. Lorand thinks that there exists an obesity due to rich food and a sedentary life; and also an obesity due to morbid processes of certain glands whose internal secretions powerfully influence all of the processes of nutrition. The removal of the ovaries or of the thyroid is followed by a diminution of oxidation, while the products of these glands increase it. The line between these cases of obesity and complete myxœdema is very narrow. Leven (La Tribune Médicale, November 5, 1904).

OVARIES, CONSERVATIVE OPERATIONS ON THE.

Operations on the ovaries that preserve the menstrual and reproductive functions should be employed, when possible, in lieu of complete extirpation. Healthy displaced ovaries may be anchored to posterior surface of the broad ligament or by shortening the infundibulo-pelvic ligament. Sterile women and married women who are using means to avoid pregnancy are unfavorable subjects on which to do conservative operations on the ovaries. Conservative operations should be avoided on all pus cases, as a general rule. J. W. Cokenower (Journal of the American Medical Association, December 17, 1904).

PAROTITIS FOLLOWING INJURY OR DISEASE OF THE ABDOMINAL AND PELVIC VISCERA.

It appears most probable that cœliac parotitis is due to the action on the parotid glands of toxic substances absorbed into the blood and derived from *(a)* the secretions of certain organs modified by injury or disease; *(b)* toxins of microbic origin (*e.g.,* bacillus coli) absorbed either from the alimentary canal, peritoneal cavity, or bladder; *(c)* products of deranged digestion.

In any given case of injury or disease of the abdominal or pelvic viscera the occurrence or not of parotitis will therefore depend on the presence and the absorption in sufficient quantity of some of these various toxic agents. Suppuration is not an essential feature of the condition, but is due to the fact that the parotid gland, when inflamed by the action of these toxic agents, forms a *locus minoris resistentiæ,* and becomes secondarily infested by pyogenic organisms reaching it *(a)* by the blood-stream; *(b)* by Stenson's duct. Brennan Dyball (Annals of Surgery, December, 1904).

PNEUMONIA, ACUTE LOBAR, TREATMENT OF.

The writer advises that judicious, rational treatment should be begun immediately and continued during the attack. The most useful *single agent* in treatment, as preventive and curative, is creosote, used preferably as inhalations, properly given and continued for a sufficient length of time. Strict avoidance of extremes of treatment in any direction should be observed, whether it be toward the use of so-called specifics or the employment of certain drugs, notably digitalis and strychnine. It should be graven on the mind that pneumonia may be throttled or minimized most surely in the beginning. Later, when the disease is fully developed our rôle is inferior, but should consist mainly in doing least harm. Harm proceeds almost invariably from ignorance or undue enthusiasm. Beverley Robinson (American Journal of the Medical Sciences, December, 1904).

PNEUMONIA OF ADULTS, TREATMENT OF.

The tendency is to forget that this is a general disease in which there may be great disparity between the local signs and the patient's general condition, severe cases sometimes giving evidence of but slight lung involvement, and *vice versa.* So far, the attempts to devise a specific treatment have not been successful, and but little is to be expected in this direction, for the pneumococcus is not always a constant quantity, and various other organisms, including the influenza bacillus, which, of late, has markedly influenced the disease, may be present in mixed infections. The author's detailed discussion of the treatment is subdivided under the following heads: 1. To maintain life. The careful management of the stomach by a suitable diet to prevent distension and the consequent cardiac embarrassment is of the highest importance. It is wiser to give too little food than too much and to avoid all carbonated beverages. 2. To support the heart. The best drugs for this purpose are strychnine, caffeine, alcohol, camphor, and ergot. If prompt results are not obtained all the drugs should be given hypodermically and in sufficient amount to exert their physiological action. Views as to the value of large doses of digitalis are still divided. Adrenalin, the precordial icebag, cupping, and venesection are also useful measures. 3. To control hyperpyrexia. Large, flat icebags on the chest will be found useful, but care is necessary to avoid producing intercostal neuritis. Cold sponging and packs are of value, but must be used with caution, and cold baths are contraindicated. The rational use of coal tar antipyretics in small doses may contribute much to the patient's comfort. 4. To relieve suffering. The cough and pain are combated by the use of small doses of morphine hypodermically, or of heroin hydrochlorate. The Paquelin cautery is of great value for the pleuritic stitches. Oxygen is probably of less value than is generally supposed. Every effort should be made to secure as much sleep for the patient as possible. 5. To control complications. Pleurisy with effusion, empyema, pericarditis, endocarditis, etc., require the treatment ordinarily pursued. M. Manges (Medical Record, December 10, 1904).

PNEUMONIA, SERUM TREATMENT OF.

A sufficiently extensive trial of the antipneumococcal sera has been made to determine with a reasonable degree of accuracy their efficency, and the results, as a whole, fail to carry conviction. An efficient serum, or one that will cut short the pneumonic process, is yet to be produced, although, according to some clinicians, the sera available at present have a restricted field of usefulness. Recent observers have employed the serum in massive doses from the commencement of the disease without gratifying results. The practical results of the use of the antipneumococcus serum, as shown by the very slight reduction in the mortality percentage, does not warrant its general introduction. The sera thus far found possess no antitoxic qualities, and their supposed anti-infectious properties have not been proven. Further investigations into the subject with a view to discovering an efficacious serum are to be strongly advised and encouraged. J. M. Anders (Journal of the American Medical Association, December 10, 1904).

RABIES, NEGRI'S BODIES AND THEIR SIGNIFICANCE IN.

The writer concludes as follows from a detailed study of the question as to the meaning of Negri's bodies in the causation of hydrophobia. (These bodies are special structures found by Negri in the cells of the central nervous system of animals affected with rabies): If some nervous tissue of a rabid animal be deposited upon the cerebral cortex of a rabbit, the virus will be found localized at this site during the entire period of incubation, and will be still found there when the more distant portions of the nervous system have already become affected. If a cornu ammonis rich in Negri's bodies be deposited upon the cerebral cortex of a rabbit, these bodies do not disappear until the fourth or fifth day after the inoculation, and do not present any modifications which would point to any biological activity. They simply take part in the general necrosis which takes place in the inoculated tissue. During the following days, when the cornu ammonis is gradually disappearing, it is no longer possible to recognize the Negri's bodies. Neither are these bodies to be found in the leptomeninges which cover the inoculated spot, nor in the cortex which underlies it. The eosinophile granules which are observed in these cases are not derivatives of Negri's bodies, as they occur also when a non-hydrophobic nervous tissue is inoculated. Negri's bodies, when observed in hanging drop preparations on warmed slides, do not exhibit any spontaneous movements. Neither do they exhibit such movements when they are allowed to remain for some days within the peritoneum of an animal, enclosed in sacs of celloidin. If pieces of a cornu ammonis rich in Negri's bodies are placed in a celloidin sac and kept in a peritoneal cavity for some time, the Negri's bodies do not show any biological changes, but undergo necrosis. Therefore, we have no reasons, as yet, to think of the Negri's corpuscles as being etiological factors in rabies. Luigi D'Amato (Riforma Medica, November 9, 1904, from New York Medical Journal and Philadelphia Medical Journal, December 24, 1904).

RADIOTHERAPEUTIC TECHNIQUE, VARIATIONS OF.

The writer believes that technique is the key to success in Roentgen ray work. The application of this treatment either in diagnosis or treatment, should be done by mathematical calculations to do the most successful work. Usually the combination of surgery and the Roentgen ray will produce the best results. Tubal distance is very important in treating deep-seated glands. The Roentgen ray should be of large volume when deep lesions are to be treated. The Roentgen ray, like the intensity of light, varies inversely as the square of the distance. In treating deeper lesions, the best results will be produced by using a light which affects the different layers of tissue the most uniformly. The intensity of the rays, for example, is more uniform in the different layers of tissue with the tube placed at 16 inches than at 8 inches. In the treatment of superficial lesions a low tube placed near to the surface of the skin eliminates the danger of injuring the deeper tissues. Periostitis has been caused by a high tube placed at a distance. Each case is an individual one and should be treated as such. Adjunct treatment in these cases should not be overlooked. Every help possible should be taken advantage of to keep the system in perfect condition. In cases of carcinoma, when toxæmia is present, electric light baths are very valuable. Diet is important. Much liquid should be taken. Alcoholic, syphilitic, or very anæmic patients as a rule do not improve rapidly, and such patients often burn easily. R. H. Boggs (American Medicine, November 26, 1904).

REFRACTION IN CHILDREN, NERVOUS SYMPTOMS PRODUCED BY.

Nervous symptoms of a variety of kinds occur as the result of eye-strain. Eye-strain is due to refractive errors, to imbalance of the external ocular muscular system, or, more frequently, to a combination of the two. Of these two, the refractive errors are by far the more frequent cause. Muscular imbalance alone may cause it. Headache is by far the most common nervous symptom in children, caused by eye-strain. Headache is chronic or induced directly by near work and is generally in the forehead or temples. Migraine or hemicrania, due to eye-strain, is comparatively rare in children. Any nervous symptom in children should arouse the suspicion of ocular defects, either as the direct or a contributory cause. The refractive correction should be made under atropine. Muscular defects are secondary to the refractive, and should be corrected only in certain cases. J. H. Claiborne (Journal of the American Medical Association, December 10, 1904).

RHEUMATIC AFFECTIONS, INTRAVENOUS INJECTIONS OF SALICYLATES FOR.

The writer lauds the method advocated by Mendel for the treatment of rheumatic conditions by means of the injection of a salicylate solution consisting of sodium salicylate 8.0, caffeine sodiosalicylate 2.0, distilled water ad 50.0. The therapeutic results of this method are excellent, and prompt relief is afforded in nearly all forms of rheumatic affections. A careful diagnosis is necessary, however, for non-rheumatic disorders are not amenable to this plan of treatment, and the effect in rheumatic cases is less pronounced the longer the duration of the trouble has been. The injection should be made with all due aseptic precautions, and care should be taken to see that the presence of the point of the needle within the lumen of the vein is demonstrated by the appearance of a column of blood within the syringe before the fluid is expelled, as the solution gives rise to severe pain if thrown into the tissues instead of directly into the vein. The author has seen no disagreeable complications attend the method when carefully employed, and recommends it especially for cases where it is of great importance not to upset the stomach, as in treating tubercular patients, for example. Behr (Münchener medicinische Wochenschrift, November 8, 1904).

SIGMOID, SURGICAL DISEASES OF THE.

The various pathologic changes to which the physiologic functions and anatomic structure and relations of the sigmoid render it especially susceptible, may be regarded as successive stages or steps of one morbid process, rather than as so many different diseases.

An impartial study of the various successive pathologic changes that precede, accompany, and follow inflammatory obstructions and malignant diseases of the sigmoid, furnishes convincing evidence of how little can reasonably be expected of medical treatment, and how much timely operative interference must be relied upon to correct disease in this region.

Advanced malignant disease of the sigmoid is always preceded by pathologic processes which it should be striven to recognize early and correct by timely operative procedures.

Acute obstruction due to volvulus, unless relieved promptly by inflation of the rectum with water or gas, is always an indication for operative interference. All torsions of the bowel with partial or complete stricture usually demand operative interference. All inflammatory or necrotic processes that include the peritoneal coat of the gut, with or without angulation or stricture of the bowel, should be regarded as surgical conditions.

The known frequency of cancer and all forms of intestinal ulcerations in this region, the occasional occurrence of volvulus, a practical consideration of the anatomic structure and relations of the sigmoid, combined with the lessons gleaned from a limited number of clinical experiences and postmortem examinations,—all tend to confirm the belief that inflammatory lesions and obstructive distortions of the sigmoid are by no means rare; and that their rational treatment should be based upon the surgical conception of the conditions. H. D. Niles (Northwestern Lancet, December 1, 1904).

SKULL AND BRAIN, EFFECT OF DIRECT AND INDIRECT VIOLENCE UPON THE.

Injuries of the skull and brain may be classed under two heads, those of impact and those of momentum, either of which may be occasioned either directly or indirectly. Injuries of impact, however extensive, offer a better immediate and remote prognosis, but must be treated with as little delay as possible, and almost always surgically.

Injuries of momentum show graver probabilities both in the immediate and remote effects. In injuries of momentum, lesions through *contrecoup* are more apt to occur, with extensive damage to the brain structures and often without fracture of the skull, or external wound.

After trauma to the skull and brain the immediate necessity is free drainage and avoidance of intracranial pressure.

The possibility of fracture should ever be kept in view after injuries to the head, and scalp wounds should, if necessary, be freely enlarged to determine the wisdom of further operative interference. Progressive coma, after momentum injuries, is a strict indication for operation. A. E. Sterne (Cincinnati Lancet-Clinic, November 26, 1904).

SKULL, BIRTH-FRACTURE OF THE.

A survey of the literature available, and the experience of a number of cases seen, and particularly of the twenty-three cases operated on, appear to the author to warrant the following conclusions: The statement made by a number of authors to the effect that, in the majority of cases, depressed greenstick fracture of the skull in infants rectifies itself if left alone, lacks substantiation. It is certainly no more true of the traumatic (as opposed to the parturition) greenstick fracture of the skull than it would be if made of any other greenstick fracture in the body. In regard to the parturition cases it may be true of some, viz.: the slighter cases of indentation, which may spontaneously disappear within a day or two of birth. In the more marked cases the writer regards such a statement as misleading. In cases over one month old, after the deformity has become "set," its spontaneous obliteration must be regarded as problematical, and as being, at best, both slow and partial.

In cases of greenstick depressed fracture of the skull in infants and children which have not, when recent and soft, been remedies by Munro Kerr's method, operation is justifiable even if only for the correction of deformity. The excision of a nævus of the face or a small keloid scar from the neck is an everyday surgical procedure. The deformity of a cranial depression is quite as unsightly as either, and is the cause of much more anxiety to the parents, who attribute any little real or imaginary eccentricity of the child to his "queer head," while the operation for its correction is no more serious than is the removal of the nævus or the keloid. The twenty-three cases on which the author operated recovered without a death, many of them as hospital out-patients.

Of the two methods available, elevation and inversion, the latter is decidedly the better, alike in the freedom from risk and the perfection of the result obtained. James H. Nicoll (Annals of Surgery, December, 1904).

SPINA BIFIDA, OPERATIVE TREATMENT OF.

There are no absolute contra-indications to the operative treatment of spina bifida. The worse the case the more marked becomes the futility of other than operative measures, and the greater the probability that the child will die if let alone. Paralysis, hydrocephalus, and marasmus, often spoken of as contra-indications, should not be so considered. Each has been, and may be improved.

As to method, in meningocele, opening of the sac, after dissecting up the skin by a pair of lateral incisions, suture of the neck, and removal of redundant tissue. In myelomeningocele and syringomyelocele, the same method combined with loosening of the nerve cords, and return of the same to the canal.

As to prognosis, meningoceles, with more extended experience, should yield practically uniformly favorable results. In cases of syringomyelocele and myelomeningocele, owing to oft-present nerve involvement, the results will not be so encouraging. Paralysis may be relieved.

As to technique, absolute asepsis, combined with as little handling of nerve tissue as is essential, will give the best results. Loss of cerebro-spinal fluid in moderate amounts is not of importance. Operating on an inclined plane is not necessary, and the use of bony flaps is rarely, if ever, essential. E. R. Secord (Canadian Practitioner and Review, December, 1904).

STOMACH, MOTOR INSUFFICIENCY OF THE.

Many cases of long standing digestive diseases are due to motor insufficiency to overcome a partial obstruction, benign in nature, at the pylorus. And any treatment is but palliative, even if as much as that, except a treatment that will either enlarge the pyloric opening, or, as has been found better in most cases, making a new opening by gastro-enterostomy.

In the atonic form of motor insufficiency, operation is not indicated. In selecting a remedy, chief attention should be given to constitutional or general symptoms rather than to those especially pertaining to the stomach. In the atonic form, in addition to remedies and other means of a general nature, pneumatic, intra-gastric massage, is an adjuvant of much value in helping to develop the muscular walls of the stomach. E. O. Adams (Cleveland Medical and Surgical Reporter, November, 1904).

SYPHILIS, PROGNOSIS OF.

Syphilis is a curable affection, provided treatment is begun early and faithfully and persistently carried out. At least three, if not four years of continuous treatment is required to bring the morbid process under control, with all dangers of recrudescence eliminated.

The indications of the total cessation of the destructive condition consist of the absence of all manifestations and lesions for a period of not less than two years, a steady gain of bodily weight, or at least no loss of same, and the propagation of healthy children. These indications are, at the present juncture of our knowledge of the prognosis of syphilis, unfortunately, far from positive and reliable. N. E. Aronstam (Medical Age, November 25, 1904).

TUBERCULIN TEST, THE VALUE OF THE.

A reaction to tuberculin is positive proof of tuberculosis. The failure to react may be of negative value if the tuberculin test is used when the disease is far advanced. When the errors of the diagnosticians using the tuberculin are eliminated, the percentage of failures must be exceedingly small. Owing to the variability of all the general and local symptoms of a "reaction," reliance must be placed entirely on the induced fever. Cases apparently "recovered" often react to tuberculin, thus proving that there is tuberculosis, and that the disease is present in a latent form.

The average time for the reaction is 12 hours. The reaction, however, may be delayed, some cases showing the characteristic rise after 20 hours. Large initial doses for injection should be used, as small doses tend to establish a tolerance, thus preventing a reaction. Extreme care is essential when reaction to tuberculin is suspected. The preliminary temperature should be carefully considered, and all errors eliminated.

Advanced cases of tuberculosis do not, as a rule, react. If a reaction is secured, it is generally obscured by preliminary temperature oscillations. The use of the tuberculin test in general practice is to be commended, if the physicians remember the extreme delicacy of the test, its limitations, and the necessity of the employment of a thorough and unvarying technique. I. H. Neff (Journal of the Michigan State Medical Society, December, 1904).

TUBERCULOSIS OF THE MIDDLE EAR, BILATERAL.

If there is free drainage of the tympanic cavity through the auditory canal; if there are no granulations present and no symptoms of facial nerve paralysis; if the mastoid does not show and has never shown any signs of involvement; and if there are no extensive areas of necrosis, the author would treat the condition expectantly through the auditory canal. If there is facial paralysis and extensive granulations extending out into the canal; if the mastoid shows or has shown involvement, whether tubercular or not; and the patient shows vitality enough to stand the anæsthetic, the radical operation should be proposed immediately. Dunbar Roy (Journal of the American Medical Association, November 26, 1904).

TUBERCULOSIS, PULMONARY, METHODS OF INFECTION IN.

The author assumes that the bacillus probably does not grow on a mucous membrane with mucus as a medium, and that it can and does penetrate mucous membranes, alimentary or respiratory, without leaving the slightest sign of its passage. The first disputable point is whether foreign matter can be inhaled directly into the lungs, and the author bases his affirmative answer largely upon the study of anthracosis and the allied conditions. The basement membrane of the bronchi is not perforated by the lymph radicles, and foreign matter can therefore only reach the bronchial glands by penetrating the air sac to the lymph radicles below or as by being "screened out" of the pulmonary circulation into the interalveolar lymph radicles. In favor of the former as a possible method is the fact that in rabbits which have been confined in a heavy atmosphere of lamp black the pigment is found both in the air sac itself and sticking through the walls of the sac. Another observation pointing in the same direction is that the pneumococcus when introduced experimentally into the circulation of animals seeks a serous membrane and does not cause pneumonia. By analogy it would appear probable that in pneumonia, as met with clinically, infected dust has been able to reach the air sacs of the lung directly. The question whether foreign matter can reach the lungs by way of the intestinal tract is also answered in the affirmative.

The method by which the cow contracts the disease is important. The author believes it to be by ingestion of food infected by tuberculous sputum, and probably never by inhalation. Against the view that in man the infection is due in many cases to food infection is the rarity of abdominal tuberculous lesions, but little weight attaches to this argument when it is remembered that the site of the lesion does not indicate the point of entrance of the bacillus. A useful formula in this connection is that "a specific organism seeks an organ, serous or mucous membrane, for the reason that the particular animal tissue furnishes the exact kind and exact amount of nutritive medium under exact biothermal conditions which make it possible for it to multiply, colonize, and survive its incubative period in the animal organism." In adults such tissue is found in the lung, while in children intestinal affection is more common. That tuberculous milk is only a minor link in the chain of infection to man is indicated by the prevalence of tuberculosis among oriental nations, to whom milk as an article of diet is almost unknown. The author believes that infection by either the alimentary or respiratory tract is possible, but that the former is a frequent and possibly the most frequent method, and that the common house fly forms a medium for the conveyance of the bacilli from the ejected sputum to the food. J. O. Cobb (Zeits. für Tub. u. Heilstatt., bd. vi, ht. i; British Medical Journal, December 10, 1904).

TYPHOID FEVER, TREATMENT OF.

The writer divides the methods of treatment of typhoid fever into four classes, as follows: 1. Specific. So far no antitoxic serum has been produced, although Chantemesse claims to have done so. On the other hand, Wright's method of antityphoid inoculation with attenuated typhoid cultures, not only confers a considerable degree of protection, but it also exercises a mitigating influence on the severity of the attack. 2. Antipyretic. *(a)* Drugs. Of all the drugs used to reduce the temperature in typhoid fever, quinine is undoubtedly the best. It is markedly inhibitory to the growth of the typhoid bacillus in cultures, has no depressant influence upon the heart, and does not inhibit the elimination of toxins from the system. Its full effect is not reached until after four or five hours. *(b)* Cold. The best method of treatment by means of the abstraction of heat is the cold bath, as advocated by Brand. But in England its use has been mainly restricted to the combating of hyperpyrexia in special classes. It owes its superiority to its influence on the nutrition of the skin and the maintaining of the excretory activity of the skin and kidneys. Barr's method of treatment by means of the continuous tepid bath gives excellent results, but relapses are unduly frequent. Ice cradles, cold and wet packs, and cold sponging all have their advantages in special cases. 3. Antiseptic. It is now recognized that any attempt to achieve the destruction of typhoid bacilli in the lower region of the intestinal canal by the administration of antiseptic drugs by the mouth is nothing short of futile unless given in such quantity as to harm the patient. But antiseptics are rightly given in the confident hope that they will inhibit the growth of the typhoid bacillus and of the various putrefactive organisms associated with it in the alimentary canal. In suitable cases calomel is an excellent antiseptic; in others it produces harmful intestinal irritation. Sulphurous acid in 20 minim doses is capable of checking fermentative changes in the bowel; the oil of turpentine is also valuable in the same way.

The author has used the essential oil of cinnamon in a series of 147 cases. Of these 14 died, a mortality of 9.5 per cent. The favorable effects noted were as follows: The temperature ran at a lower level than is customary in typhoid, the daily mean approximating 101° F. The patients remained for the most part drowsy throughout their illness, many of them evincing a constant desire to sleep, as a result of which mental rest was secured and delirium was less frequent. Intraintestinal fermentation, as evinced by abdominal pain, distention, and fœtor, was controlled to a striking extent. To obtain the full effect, $2\,{}^1/_2$ to 5 minims of the essential oil must be given every 2 hours, but it must be begun in much smaller doses. Care should be taken that the best quality of the oil be used; the earlier in the disease it is begun the better the result. Experiments show that the oil of cinnamon has an appreciable, though slight, inhibitory influence on the growth of the typhoid bacillus in a dilution of 1 in 2600: at 1 in 1000 its strength is complete. The pulse furnishes an indication of the highest value: in at least half the cases death is due to circulatory failure. In most cases alcohol is not only not required, but it is occasionally harmful. The special indications demanding its use are: Constant delirium and sleeplessness, with tremor, weak circulation, and a dry tongue; undue weakness of the pulse; cardiac dilatation, cyanosis, and pneumonia; hyperpyrexia, excessive diarrhœa, and intestinal perforation.

The treatment of intestinal hæmorrhage consists in the giving of a full dose of opium, the use of the icebag, and the complete deprivation of fluids. As regards perforation, a moribund condition of the patient is the only contraindication to operation. F. F. Caiger (Lancet, November 26, 1904).

ULCER OF THE STOMACH AND DUODENUM.

Gastric ulcer is rare in the Johns Hopkins Hospital as compared with cancer, the respective incidence being 1 to 225 and 1 to 56 general admissions. In the writer's series, gastric ulcer was as common in the male as in the female. In the male the percentage of greatest frequency was between the ages of forty and fifty—a decade later than usual. It was relatively more frequent in the colored race and among Germans. Vomiting occurred in 85.3 per cent.; pain in 82.9 per cent., and hæmatemesis in 75.6 per cent. Great loss of weight may be present; thus, in 36 cases there was a loss of more than 10 pounds, and in 9 of 40 pounds or more.

The writer's statistics would indicate that hyperchlorhydria is not so constant as usually maintained; it was present in only 17.6 per cent. of the cases. The blood picture is one of chloranæmia as seen from the average count (hæmoglobin, 58 per cent.; red blood corpuscles, 4,071,000; white blood corpuscles, 7500 per cubic millimeter). Hæmorrhage was the cause of death in 8.5 per cent. of the total number of cases, and in 29.5 per cent. of the fatal cases. Perforation is rare (3 cases, 3.6 per cent. of present series). General peritonitis occurred in but one instance (1.2 per cent.). Ulcus carcinomatosum is rare—at least 4.8 per cent. of present series.

Operation is indicated in all cases with perforation or perigastric adhesions, and in cases of copious or recurring hæmorrhage when medical means have failed after a fair trial.

The mortality of the series was 29.3 per cent.; in the cases, however, who received treatment there was a mortality of only 18.8 per cent.; in those receiving medical treatment alone, 8.6 per cent. C. P. Howard (American Journal of the Medical Sciences, December, 1904).

VOMITING OF PREGNANCY.

There is simple nausea with or without actual emesis of physiological and reflex origin, a symptom only due to hyperæmia, the developing uterus, vessels, and nerves in a confined cavity. Malposition of the uterus, if the cause of so many troubles in ordinary conditions of health, must be a graver trouble in the pregnant woman, and thus increases the vomiting of pregnancy and consequent malnutrition and emaciation.

In the absence of uterine troubles and organic disease, hysteria plays an important rôle, and usually defies all therapeutical remedies. If operation should be deemed necessary, it should be carried out under thoroughly antiseptic conditions and anæsthesia.

It is probable in pregnancy, with its increased arterial tension, and where lung and cardiac complications exist, gastric irritation may be set up and continued in consequence of the special toxæmia which at present is only suspected, but which in further researches, the writer is convinced, will be scientifically proved. J. M. H. Martin (British Medical Journal, December 10, 1904).

DR. FRANK P. FOSTER.

Dr. Foster has just completed the twenty-fifth year of his labors as Editor of the New York Medical Journal. Started as a monthly, the journal has steadily increased in size and importance under his able management until it has become what it is now, one of the leading scientific weeklies of our land. Dr. Foster's generosity under all occasions, his lofty ideals, and the marked influence his labors have had in the development of medical journalism, have given him a place in the estimate of his colleagues that anyone can envy. We heartily congratulate him and wish him many more years of success.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Transactions of the Clinical Society of London. Volume Thirty-Seventh, 1904.——Transactions of the American Otological Society. Vol. VIII, Part III. 1904.——Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year 1904.——Report of the Secretary of Agriculture, 1904.——A Case of Supposed Primary Tuberculosis of the Pharyngeal Tonsil. By D. M. Barstow, New York. 1904.——The Aseptic Technic of Abdominal Surgery with the Topographical and Visceral Anatomy of Male and Female Abdomen. By H. O. Walker, Detroit, Mich. 1904.——Treatment of Anæmic Conditions in Children with Iron. By George Carpenter, London, Eng. 1904.——Report of the Committee on Prophylaxis of Venereal Diseases. Ludwig Weiss, New York.——Contributions to the Pathology and Treatment of Acute Gonorrhœa. By Ludwig Weiss, of New York. 1904. ——Hereditary Abnormity of the Little Finger. By G. T. Mundorff, New York. 1904.——The Kollmann Five-Glass Test. By G. T. Mundorff, New York. 1904.——Report of a Case of Obstinate Phosphatic Diathesis cured by Systematic Dilatations of the Posterior Urethra. By G. T. Mundorff, New York. 1904.——A Case of Horeshoe Kidney Found During an Operation for Nephrectomy on the Cadaver. By G. T. Mundorff, New York.——Bacillus Pyocyaneus Septicæmia Associated with Blastomycetic Growth in Primary Wound. By J. R. Eastman and T. V. Keene, Indianapolis, Ind. 1904.——The Relation of Asthma to Nose Disease. By Greville MacDonald, London, Eng. 1904.——Sarcoma of the Abdominal Wall, and Probably of the Pelvic Viscera, which has Disappeared under the Use of the Röntgen Rays. By G. E. Shoemaker, Philadelphia. 1903.——Fibroma of the Uterus, Complicated by Disorders of the Heart and Kidneys. By G. E. Shoemaker, Philadelphia. 1904.——Immunity from Consumption. Cause and Treatment of Consumption. Massage Treatment for Consumption. By C. L. Topliff, New York. 1904.——Poisoning by Wood Alcohol. Causes of Death and Blindness from Columbian Spirits and Other Methylated Preparations. By Frank Buller, Montreal, Canada, and C. A. Wood, Chicago, Ill. 1904.——International Sugar Situation. By F. R. Rutter, United States Department of Agriculture, Washington, D. C. 1904.——Varieties of Fruits Recommended for Planting. By W. H. Ragan, United States Department of Agriculture, Washington, D. C. 1904.——The Chemical Composition of Apples and Cider. By W. B. Alwood, R. J. Davidson, and W. A. P. Moncure, United States Department of Agriculture, Washington, D. C. 1904. ——Progress Report on the Strength of Structural Timber. By W. K. Hatt, United States Department of Agriculture, Washington, D. C. 1904.——The Use of Paris Green in Controlling the Cotton Boll Weevil. By W. D. Hunter, United States Department of Agriculture, Washington, D. C. 1904.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

THE PRESENT STATUS OF NEUROLOGY.

A GENERATION ago neurology seemed to have the most promising outlook of any of the departments of medical science. The correlated results of the experimenter, the anatomist, and the clinician were so conclusive and so illuminating, not only of many of the obscure points in the physiology of the nervous system, but of its diseases as well, that many—even the most conservative—hailed the advent of a new era in this department of medicine. The stimulus which these results gave to the diagnosis of diseases of the nervous system is best evidenced by the progress which has been made in that field. In no department of clinical medicine have the results been more gratifying and to-day the correct diagnosis of organic diseases of the nervous system is more directly dependent upon the application of rules of scientific exactitude than in any other department of internal medicine. Despite this commendable state of affairs, there is no denying that during the past few years a remarkable stagnation in neurological progress has come about. The proceedings of the neurological societies of the great cities of the world, London, Paris, Berlin, New York, are the best proof of this statement. During this time no contribution of signal importance has been made and not only is there a real dearth of epoch-making contributions, but the apathy and indifference manifest toward the subject is shown in the comparatively few contributions in which new points of view are set forth. In certain centers this stagnation of neurological progress has been compensated for in a measure by a renewal of interest in psychiatry, and thanks to the initiative of Kraepelin and to the persistence of Wernicke, the clinical study of mental diseases has had a very decided impetus given to it throughout the entire world. One of the results of this impetus is to be seen in the tendency at the present time to put many of the cases of functional nervous disease, such as were formerly classified under neurasthenia and hysteria, under the caption of mental diseases. Another is the frequency with which the meetings of neurological societies are entirely given over to the discussion of psychiatric subjects; and a third is the immense number of contributions upon mental disorders that is to be found both in the weekly medical journals and in the special neurological periodicals.

This revival of interest in psychiatry is most commendable and will certainly lead to gratifying results. But at the same time it need not blind us to the fact that a part of the interest being manifest in psychiatry is that which was formerly given to neurological subjects, and that the chief reason why it is no longer given to the latter is that neurology for the time being seems to have come to a genuine standstill. The idea that the laboratory worker would reveal the pathogenesis and with it the real etiology of many of the organic and functional diseases of the nervous system which was held a generation ago has been supplanted by one which holds that for this information we must look elsewhere. As a matter of fact, the promise which the laboratory held out has not been made good. We have been profoundly informed as to the structure, situation, and architecture of the nervous system, we are deeply versed, compared to a generation ago, in the physiology of the nervous system and both of these desirable states have been brought about largely by the worker in the laboratory, but we know very little more concerning the etiology, pathogenesis, and the clinical display of the majority of nervous diseases, organic and functional, than we did twenty years ago. We no longer have any interest or incentive in reporting one or several cases of disseminated sclerosis or tabes or progressive muscular atrophy or bulbar paralysis or myasthenia gravis, even though they are accompanied by reports of most carefully performed histological work, because we are unable to add anything new to what has already been said and said very often. There is no incentive to work over the statistics of epilepsy or hysteria or brain tumors, or of tabes or of paralysis agitans or any of the other well known diseases of the nervous system. The successive contributions in this direction brings with them no illumination. Occasionally a disease undergoes a clinical transformation in the course of time, such as general paresis and tabes seem to have done, and then the clinical course and description of the disease has to be rewritten. Occasionally a clinician of large experience and profound insight is able to split up a disease into two or more distinct varieties or to lop off from a more or less heterogeneous symptom-complex a clinical entity such as Erb did when he established the reality of syphilitic spinal paralysis. Now and then some new objective symptom of real diagnostic importance is discovered, such as the toe phenomenon of Babinski indicative of lesion of the pyramidal tracts, but in the main no considerable progress in neurology has been made during the past few years, and it is to this absence of progress that we must attribute the widespread lack of interest in neurological subjects.

In a measure our apparent indifference is the expression of our disappointment that the laboratory worker, experimenter, and pathologist have not realized our expectations that they would contribute to the elucidation of the origin and course of nervous disease. More depressing still is the fact that there are no signs tending to indicate that we can look to them for much help in the future. As a matter of fact the neurologist must look to himself in the interpretation of diseases of the nervous system and not pin his hope to the psychologist, physiologist, or pathologist. The riddles of his branch of pathology are more likely to be guessed by him because of his own clinical experience than from any other equivalent. What neurology needs at present more than anything else is votaries who are trained in the highest degree to exact observation and to exact recording of such observations.

The recognition of the vast majority of the functional and organic nervous diseases when they have reached certain not very advanced states of development is probably one of the easiest branches of the medical art to acquire. The majority of the organic nervous diseases are accompanied by objective symptoms which indicate the diagnosis with absolute certainty, and to recognize them requires no considerable skill and no especial training, but to detect the earlier symptoms of such diseases and to give them correct interpretation, to determine the perversion of function, particularly in the viscera, which such symptoms indicate, and to give them their true significance in contributing to the nervous disease is the task which is by no means easy. It is the absence of exactitude in observation and in recording of the earlier symptoms of nervous disease or of symptoms that seem to be remote from the disease that we are endeavoring to interpret that has helped to make neurology the barren acre that it seems to be to-day; and if we propose to cultivate it and expect to find it fertile we must go back to the first principles that have been found useful in the interpretation of every disease. Facts are what are needed in neurology at the present time. They are the material from which must be built the road upon which the triumphal march of neurology may pass. One often hears it said that the day of operating for brain tumors has passed, that surgeons of experience are not keen to undertake these cases unless under the most favorable circumstances. Despite this attitude it is probable that when the neurologist acquires a comprehensive insight into the symptomatology of intracranial neoplasms; when he can come forward with the facts of these cases, the surgical treatment of them will not only take the place which it was thought it had taken ten years ago, but it will be an adequate treatment in perhaps a majority of cases.

The urgent necessity is for an enlargement of our clinical horizon by careful and exact observation and record, not only of phenomena which are already recognized as symptomatic, but of all phenomena whether it has or has not apparent bearing upon the disease, which will eventually permit of logical analysis and interpretation of objective phenomena. Many examples might be cited to show the existence of a hiatus in our neurological knowledge. Take, for instance, the question of ankle clonus. A most important question is, does it or does it not exist in functional nervous disease such as hysteria? One will answer the question in the affirmative, another in the negative, but where are the facts that should stand out with the distinctness and splendor of jewels in an imperial crown? This is not an isolated example, a half score might be cited quite as easily. Neurology has missed the fructifying impetus and rejuvenating effect of bacteriology which have been given so bounteously to surgery and internal medicine during the present generation, and consequently the pace which has been set by them along the high road of progress would seem to be too rapid for the offshoot neurology which appeared so lusty at its birth and during its youthful days.

The tranquil stage through which neurology is passing does not mean that it has forfeited its claim to be considered a competitor in the race. On the contrary, the new bearings that are being taken, the deep consideration that is being given to the problems that present themselves, the continual seeking for new avenues that will reach the goal more directly and surely, are bound to win in the end large rewards for her patient devotees.

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SUPRARENAL EXTRACT IN THE TREATMENT OF CARDIO-VASCULAR DISEASE.

SOME recent experience has led the writer to examine more closely into the results reported from the use of suprarenal derivatives—viz.: suprarenal extract and adrenalin—in the above mentioned class of diseases. Such examination has resulted in the conclusion that they are sufficiently encouraging to justify further trial, with a view to determining the actual value of these agents. While we have in digitalis, strophanthus, nitroglycerin, caffeine and its derivatives valuable remedies in these affections, we are not embarrassed by their number.

The clinical effect claimed for suprarenal extract is a strengthening of the cardiac muscle resulting in increased force and restored rhythm, if the latter has been lost. The roborant effect is so far recognized that the hypodermic injection of adrenalin in the treatment of shock has become quite common, but its use in cardiac disease as a substitute for other cardiac tonics has not become general.

It may aid us to a better understanding to review the *modus operandi* of suprarenal extract and its active principle, adrenalin. One of the earliest discovered effects is their local action on blood-vessels, as the result of which they became early valuable for the control of local hæmorrhages and hyperæmias; whence, too, their employment in nasal therapeutics. To this knowledge was soon added a like effect when administered by the mouth, presumably due to vasomotor stimulation of the muscular coat. Herein is the first stimulus to the energy of the heart,—*i.e.*, an increased resistance to the movement of the blood which up to a certain degree stimulates and strengthens cardiac contraction.

It is not, however, through its effect as a vasoconstrictor stimulant alone that suprarenal extract increases the strength of the heart. It is acknowledged that it produces more forcible contraction of the cardiac muscle itself either through direct stimulation of the muscular substance or by a specific action of the poison on the intracardial motor ganglia. The former view is held by Oliver and Shäfer and the latter by Gottlieb of Heidelberg. Thus it would seem that the effect of suprarenal extract is like that of digitalis—coincidently a stimulus to the heart muscle and vessel muscle.

It may be said, if the action of suprarenal products is like that of digitalis, it is not an actual addition to our cardiac materia medica. But though these operations may be similar, they are probably never identical. Strophanthus, at first thought to differ from digitalis, in its absence of contracting effect on the muscular coat of the blood-vessels, was soon found to act similarly on both muscles. But further studies reiterate the earlier conclusion, at least to this extent: that the effect on the muscular coat of the blood-vessels is not as strong as that of digitalis. Be this as it may, we are often glad to substitute strophanthus for digitalis, for a time at least. The same may be true of the suprarenal extract, the effect of which may be found sufficiently different from that of the better known heart tonics to make it a desirable substitute.

An objection to suprarenal extract and adrenalin is their temporary and fleeting action. The same may be said of nitroglycerin, which has come to be acknowledged, nevertheless, as a useful agent in cardio-renal therapeutics in the hands of clinicians. It may be, too, that the operation of suprarenal extract is slower than that of its active principle, adrenalin, and that therefore it is more suitable in chronic cardiac diseases, and adrenalin better suited in sudden heart failure and shock because of its more rapid action.

As to authorities and doses, S. Florsheim regards the suprarenal extract in doses of from 2 $^1/_2$ to 3 grains a powerful cardiac tonic. E. A. Gray gave the extract for the same purpose in pneumonia in doses of from 1 $^1/_2$ to 3 grains every two or three hours. H. C. Wood gives the dose at 5 grains. Yet 120 grains of the fresh gland have been administered daily without effect. Doubtless the suprarenal active principle must be in a measure destroyed in gastric digestion. That it is not, however, completely destroyed, is shown by the fact that Grünbaum obtained a rise of pressure of from 75 to 91 millimeters of mercury with suprarenal tabloids in a pregnant woman who had very low pressure—an effect which disappeared when the drug was discontinued. Intravenous injection is, of course, a surer method of obtaining results, and the evanescent effect in strong contrast with that of digitalis must reasonably limit its utility.

The writer has used suprarenal extract in myocarditis with irregular and intermittent pulse in doses of 2 and 5 grains every six hours with seemingly good results, and intends to enlarge its use and its dose.

Adrenalin chloride, the active principle of suprarenal extract, is described as the most active of all vasoconstrictor agents. A. L. Benedict administers adrenalin in doses of $^1/_{240}$ grain as a vasomotor excitant in general atony of the vascular system attended with constipation and dyspepsia and in chronic disease of the heart in general. The 1 to 1000 solution of adrenalin may be conveniently prescribed, of which 40 minims equal $^1/_{250}$ grain. This quantity may be added to a pint of salt solution and used hypodermically. Much larger quantities are not safe. Thus I have known 8 ounces of a 1 to 50,000 solution injected under the skin to produce gangrene as far down as the muscle.

It is with a view to inviting the attention of others to this subject that this editorial is written, and it is hoped that a sufficient number of cases will be collected to permit a decision of the question.

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THE TEACHING OF SPECIALTIES IN MEDICINE.

Much that is deleterious to the welfare of individual organs throughout the body has been wrought by an imperfect understanding of the anatomy of the parts, and inadequate familiarity with the explanations of their functional activities. In a measure, the responsibility for this want of knowledge is dependent upon the present prevalent plan to impart to the student nothing more than a few clinical empiricisms which are the fruits of individual practical experience, together with a modicum of imperfectly understood ideas that have been cursorily gathered together by desultory reading and uninterested observation of the work of others.

Successful special teaching—successful in the sense of usefulness—is commensurate with but a few mental types. To secure such a character of worker, the first requisite of selection should make it obligatory to confine the choice to those who possess large, active, and varied clinical experiences that are under immediate guidance and control; the courses of instruction should be vouchsafed to only such of this selected type of instructor as are constantly keeping themselves in touch with the latest discoveries in healthy and diseased anatomical structures, and who are making themselves conversant with the most modern views regarding the relative actions of such organs; and as a final test, the work should be relegated to those remaining few who, with this knowledge at hand, are enabled to keep themselves as nearly abreast as possible with general medicine and its applications to their special lines of study. These combined types are alone able to give a proper teacher who is capable of offering the uninformed mind a theoretic and practical training which will either provoke further study and thus ensure increased usefulness in the particular line of work which has been chosen, or open the door of the special form of knowledge sufficiently wide to enable the observer to make an intelligent and selective survey of what is spread before him.

If to all of these requirements are added a broad, scientific training along germaine lines, a literary ability for the intelligent and useful perusal of noted expression of both old and new thought throughout the world, a constant search for the hidden truths of the laboratory, and a personal magnetism, enthusiasm, and charm of manner, the perfected exponent of specialized work has been fairly well obtained.

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MYXŒDEMA: IN ITS RELATIONS TO THE ADRENAL SYSTEM.

A striking feature of all the more recent physiological studies bearing in any way upon diseases of the ductless glands is the care with which the pituitary body, the thyroid, and the adrenals are examined. Many important facts are thus brought to light which will in due time demonstrate the truth of the writer's opinion in this connection, namely, that the functions of these organs furnish the keynote of the medicine of the future.

Of value in this connection is a paper by J. Ramsay Hunt, in the *American Journal of the Medical Sciences,* for February, 1905,—a pathological study of a case of myxœdema associated with tuberculosis of the adrenals, besides the thyroid lesions, in a woman of fifty-one years. The disease had begun four years before, had progressed insidiously, and ended in death from purulent bronchitis with incipient broncho-pneumonia.

The history and habits of the patient included nothing which might suggest hereditary or acquired predisposition to disease. Occipital headaches, vertiginous seizures, weakness, increasing loss of hair, swelling of the face, especially the eyes, swelling of the legs on walking or standing, frequent micturition, and failing vision constituted the symptoms recorded on admission to hospital. The *status præsens* of the case added thereto great corpulency; marked dullness and apathy and extreme slowness in thought and action; coarseness of the hair—which was yellowish-brown and very sparse—dryness, harshness, and scaliness of the skin in various regions; impairment of the acuity of sight and hearing; slow, labored, and awkward gait almost to co-ordination; slow and monotonous speech; drowsiness and subjective sensation of cold.

The *post-mortem* findings, aside from those peculiar to the intercurrent disease which killed the patient, were pallor of muscular elements, including those of the heart. The ventricles of this organ were also hypertrophied and somewhat dilated, the free borders of the mitral valves being somewhat thickened, and the cusps sclerosed near their attachment. Arteriosclerosis of the coronaries and of the circle of Willis was also present. Congestion of the liver and spleen, hypertrophy of the linguo-pharyngeal glandular tissues completes the morbid conditions presented, aside from the lesions of the ductless glands.

The nervous system appeared to play no part in the morbid process; as stated by the author, the "brain, spinal cord, and peripheral nerves, except a moderate œdema of the pia mater," and the above mentioned arteriosclerosis of the circle of Willis "show no gross pathological changes." He further refers to the classical cases of Hun and Prudden, in which this system was entirely normal, and to the report of the Committee of the Clinical Society of London, which had recognized "no essential changes in the cerebrospinal or sympathetic nervous systems," and adduces his study as a confirmation of the fact.

After reviewing some of the theories adduced to explain the origin and mechanism of the nervous manifestations of myxœdema, Hunt says: "The toxic theory is that which finds most favor at the present day, but even here authorities differ as to the exact nature of the toxic substance in question. While all concur that the symptoms are produced by an absence of the secretion of the thyroid gland, it is still one of the mooted questions of chemical pathology as to whether this secretion is itself essential to metabolism, or whether its beneficial influence consists in neutralizing products of metabolism otherwise possessing toxic properties (Ewald)."

Finally, he closes with the following remarks: "The gradual reawakening under thyroid therapy from this state of extreme mental and physical torpor, which Charcot so aptly likened to that of hibernation in animals; the disappearance of hallucinations and delusions and the eventual complete restoration of mental and bodily health after years of partial dementia, furnish strong clinical evidence that the nerve element in myxœdema is not dependent upon organic changes in the neural structures of the body. If such are present they should rather be regarded as secondary in nature or ascribed to some other complicating factor."

What conclusions can we draw from all these statements? It is evident that the manner in which the symptoms outlined are produced is unknown to the authorities to which the author refers, and that the *one established fact* is that thyroid medication is capable of restoring the patients to a comparatively normal condition. This one fact, however, is in itself a beacon—it seems to me—provided the so-called "toxic theory" be set aside as regards myxœdema *per se.*

An important difference between the intoxication that attends experimental removal of the thyroid and the gradually developed symptom complex termed "myxœdema," has always been overlooked, *i.e.,* the fact that symptoms of intoxication occur in the former case which do not appear in the latter disease. Tetany is the foremost of these; muscular twitchings first appear and these subsequently develop into clonic and tonic convulsions. No such symptoms occur in myxœdema—except occasionally as a terminal event—even in animals that survive the operation and which, after passing safely through the convulsive phase, become myxœdematous. In other words, it is only by considering myxœdema apart from the condition brought about by thyroidectomy that its true identity asserts itself. Why this difference between two conditions so nearly related? This finds a ready explanation in the fact that the sudden removal of the thyroid deprives the animal of an organ which sustains the activity of its oxidation processes. Toxic waste-products accumulate in the blood-stream instead of being converted into eliminable products by oxidation and other chemical processes in which it takes part. The merest tyro will not deny to-day that thyroid extract produces its effects by enhancing oxidation; thyroid extract, we know, causes the acute symptoms, including the convulsions, to cease. It is here, therefore, that a "toxic theory" is applicable; but such a theory does not apply to myxœdema.

We are dealing in the case of the latter disease with manifestations of another order—a steady decline of vital activities due to a correspondingly gradual subsidence of oxidation in all organs, manifested clinically by the "insidious onset and gradual progression of symptoms" in Dr. Hunt's case. There is not here the *sudden* deprivation of functions which extirpation of the thyroid entails; there is a gradual loss of function by this organ: "The important and essential change consists of an extensive atrophy and sclerosis of the thyroid gland," says Dr. Hunt, "even those vestiges of glandular substance still remaining are compressed or *undergoing* atrophy." Here, again, we know thyroid extract is remarkably efficacious, owing again to its influence on all oxidation processes. Need we insinuate a "toxic theory" to account for the array of symptoms witnessed?

But how is oxidation influenced by the thyroid extract—the homologue as far as effects witnessed are concerned of the thyroid secretion? I have submitted in "Internal Secretions," Volume I, the many reasons that have led me to conclude that this secretion had for its purpose to sustain the functional activity of the anterior lobe of the pituitary body. Considerable work done since its publication has only served to strengthen this position. The pituitary body in Dr. Hunt's case "was not," he says, "the seat of any considerable compensatory hypertrophy." Why should it, since its normal source of excitation, the thyroid secretion, was steadily being reduced? From the pituitary body I have traced nerves by way of the tegmentum, the bulb, the cord, the sympathetic chain, and the splanchnic to the adrenals—organs which, when diseased, so lower all functional activities as to give the patient sometimes, as stated by a writer in Allbutt's Practice, a cadaverous odor. Dr. Hunt refers to "the co-existence" in his case "of a chronic tuberculosis of the adrenal glands," which must, he says, "be regarded as a rare and curious example of a pathological coincidence"—until, I might add, pathologists will have realized the true importance of these organs as inherent parts of the triad upon which all our functions depend for their *pabulum vitæ*.

Charles E. de M. Sajous.

Cyclopædia of Current Literature.

ACETONURIA ELSEWHERE THAN IN DIABETES.

Although acetonuria has for years been studied, especially in its relation to diabetic coma, still for a long time it has been known to exist in other conditions. It has been said that a meat regimé causes acetonuria, and it is well known that diabetic coma is sometimes due to an exaggerated meat diet, but according to Argenson, the acetonuria of meat diet is very slight. The three characteristics of acute acetonuria are the peculiar fruity odor of the breath, and so penetrating at times as to be noticeable at a distance, the febrile urine, with the characteristic odor; and the fact that the reaction of Gerhardt is generally positive, while the reaction of Lieben is always so (acetonuria generally accompanied by diaceturia). As a rule, this clinical picture exists only when the acetone amounts to about 0.20 grain to a liter, a figure frequently reached. In the condition of acetonuria, acetone exists in the blood, as Petters and Argenson have demonstrated. The kidney plays the rôle of elimination, and not of formation. But the breath eliminates as much acetone as the saliva, and the perspiration. The origin of acetone has been discussed at great length. Some authorities believe it to be derived from sugar by alcohol or aldehyde; others, from the albuminoids. Schumann has detected acetonuria in a healthy subject after feeding him on fats exclusively, and has determined the cessation of this condition after adding carbohydrates to this regimé. But all of these diets cause so marked an inanition that it may itself be the cause of the acetonuria. This is the reason why none of the theories can be considered as being absolutely demonstrated. Although acetone is slightly toxic to a healthy subject, it is not so well tolerated by hepatic and diabetic patients, in whom it causes slight headache, and in whom it passes easily into the urine, as if the liver were incapable of arresting it. It is an exaggeration to say that acetonuria is a phenomenon contingent to the course of diabetic coma. Beauvy (Revue Française de Médecine et de Chirurgie, November 7, 1904).

ALBUMINURIA, PHYSIOLOGICAL AND PATHOLOGICAL.

It is only within comparatively recent times that this condition has been received as a possibility, but now it is generally accepted that every normal urine must contain some albumin, though it may be present only in very small amounts. Now, physiological albuminuria is regarded much in the same way as physiological glycosuria, and among the causes that give rise to it in susceptible individuals are severe exertion of the lower extremities, eating and digestion of a hearty meal, menstruation, cold baths, and psychical excitement. The occurrence of albuminuria is to be regarded as pathological only when it does not take place under unusual conditions alone, and does not disappear promptly on the cessation of the particular stimulus that caused it. Orthostatic albuminuria is distinctly pathological and most cases of this or cyclical albuminuria are caused by a slight irritation or inflammatory state of the kidneys which may go on to recovery or may develop into a chronic diffuse nephritis. Physiological and allied forms of albuminuria are based upon congenital or acquired predisposition of the individual, which consists in an abnormality of various organs such as the kidneys, the digestive tract, the blood-vessels, or the body fluids. Senator (Deutsche medicinische Wochenschrift, December 8, 1904.)

ANÆSTHESIA, LOCAL.

The writer describes his method of producing local anæsthesia. He uses B-eucain, which is far less dangerous than cocaine, while possessing analgesic properties little, if at all, inferior to it, and with the concurrent use of adrenalin for the purpose of securing a retardation of circulation equivalent to constriction of the part, he has removed some of the objections as to the duration of the analgesia, the extent of the area which can be dealt with and the amount of the toxic drug to be employed. It is necessary to keep within the safe dose of the drug, and to have at our disposal a large enough quantity of the fluid medium to render it possible to spread the analgesic agent over large areas. For ordinary surgical work the following solution is found by the author to answer well: Distilled water, 140 cubic centimeters; B-eucain, 0.2 grams; so-sodium chloride, 0.8 grams; 1 to 1000 adrenalin chloride solution, 10 minims. All this quantity of fluid can be used in an ordinary case if necessary and is quite sufficient for most. Twice as much may be injected without ill results. The duration of the insensibility is secured by the admixture of the adrenalin. Without it sensation is only abolished by eucain for about fifteen minutes; with it, for three to four hours. But the analgesia is produced more slowly when adrenalin is employed with the eucain. It is therefore well before all larger operations to wait some thirty minutes after injection to allow time for the insensibility to become fully developed. After this the effect appears to deepen for a couple of hours. Waiting has another advantage. When eucain alone is employed the operation must be done at once. The tissues are still in a state of artificial œdema which masks the anatomic details unpleasantly. By adding adrenalin to the eucain solution and waiting, the artificial œdema has disappeared and details are very clearly seen. Rapid injection is to be avoided; sudden distention of the tissues is disagreeable, if not painful. The fluid should not be used cold nor too hot, for the same reason. All dragging on the parts is to be avoided, lest structures be pulled upon which lie beyond the area of infiltration. The writer has never seen any depressing effects follow the use of B-eucain in a long series of operations. A list of operations done under B-eucain analgesia is appended, and among these are the following: Abdominal sections, hernia operations, amputations, orchidectomy, removal of cyst of thyroid, removal of silver wire from around the patella, operations for fistulo in ano, varicose veins, hydrocele, varicocele, etc. A. E. Barker (British Medical Journal, December 24, 1904).

ANTISTREPTOCOCCIC SERUM, ADMINISTRATION OF.

Injection of antistreptococcic serum in cases of pure streptococcal infection has been followed by strikingly beneficial results. Variability in the results of the serum in proved streptococcal infection has been due to the selective activity displayed by the antitoxin of each variety of streptococcus or to the serum being used too late in the case or having lost its activity from staleness. More uniform results are likely to be obtained from the present "compound" antistreptococcic serum than from the earlier forms, from the prompt injection of serum at the commencement instead of near the close of a severe infection, and from the use only of serum which has been recently prepared. The initial dose may with benefit be increased and a large quantity spread over several days causes no ill-effect. The administration of the serum should be continued for some days after the general symptoms have disappeared and a recrudescence thus avoided. J. W. Thomson Walker (Lancet, December 31, 1904).

AORTIC INSUFFICIENCY, TRAUMA AS THE CAUSE OF.

Traumatic rupture of the cardiac valves may be produced in one of two ways. The more frequent of the two is that from a sudden, intense muscular effort, such as a great sudden effort after a deep inspiration. The long inspiration and the rigidity of the thorax impedes the venous flow and raises the blood-pressure; the violence of the effort does this still more so for the moment and if the blood-pressure rises beyond a certain point at the moment of closure of the valves, a tear may be produced. The second and less frequent cause of rupture is direct violence, such as a direct blow, kick, or crush applied to the thoracic walls. There are also cases of spontaneous laceration in the course of a chronic endocarditis, the result of sudden violent shock, and increase of blood-pressure; also cases of endocarditis developing as the result of an injury. Before a diagnosis of traumatic valve rupture can be made, we must be certain that no valvular disease existed before the accident; the cardiac symptoms must first appear after the traumatism, and if the case ends fatally, a rent should be found in the valve. While such a diagnosis therefore has many obstacles, still too little attention is paid to this cause as a factor in the production of the disease. The writer, after reviewing the cases recorded in literature, states that he has observed 3 cases in the last eighteen months in which the symptoms of aortic insufficiency were traceable to a contusion or fall on the chest. Two of the patients applied for relief without referring to any traumatism in their antecedents, and it was only learned by direct questioning. In the first patient the symptoms came on a month after having been struck on the chest violently by a football; immediately after the injury the patient had fainted. He was refused for military service because of heart disease, although after other examinations held previously, no such disease had been discovered and the patient had been able to lead an athlete's life. All the signs of aortic regurgitation developed rapidly. The second patient complained of vertigo the day after he had fallen backward off a board; two months later aortic regurgitation was diagnosed; he had been perfectly well until the day of the accident. The third case is somewhat dubious on account of pre-existence of malaria and gonorrhœa, but as the symptoms came on violently after the accident, an eight-foot fall and striking of chest with a heavy piece of iron, the author considers himself jusified in making this diagnosis. Sinnhuber (Deutsche medicinische Wochenschrift, Bd. xxx, No. 32, 1904; from American Medicine, December 31, 1904).

ARTERIAL HYPERTENSION, CHRONIC.

Chronic hypertension may be divided into four classes, according to etiology: (a) arteriosclerotic; (b) cardiac, pulmonary, and cerebral compensatory; (c) toxic; (d) primary. The primary form of hypertension deserves recognition as a distinct disease. Early recognition of the tendency toward a progressive increase in pulse tension should prevent or delay the development of certain forms of cardiovascular and renal disease. In correcting hypertension sodium nitrite has many advantages over nitroglycerin. H. W. Cook (Journal of the American Medical Association, January 28, 1905).

BARIUM CHLORIDE IN THERAPEUTICS.

The author has been testing barium chloride in 40 cases of various affections, including 11 of pleurisy, 8 of valvular defects, 4 of myocarditis, 3 of typhoid, etc. He studied the temperature, pulse, respiration, arterial pressure, urine, and ingestion of fluids in the various cases while under the influence of the drug. The results confirm those reported by Schedel, Tabora, and others in respect to the efficacy of barium chloride as a pressure-raising drug and diuretic. The pressure was raised from a few millimeters to a maximum of 60 millimeters in his experiences, both clinical and experimental. It rose a few hours after taking the chloride, and constantly increased to a maximum at which it persisted for three or four days, then gradually subsided, but still kept for a time longer above the previous figure. In the very severe cases the pressure sank after the first rise—a sign of grave prognosis. In some cases there was no appreciable action on the pressure, but the general condition showed marked improvement, sometimes with diuresis. In every case, however, the pulse tracings assumed a more normal type, the pulse findings explaining the general improvement that followed the use of the drug. No injurious action was noted in any case. The prompt diuresis that followed in case of pleurisy was the most gratifying result noted, in some instances the benefit being truly marvelous, the amount of urine excreted increasing from 1000 to 4000 cubic centimeters. The dosage was 43 centigrams in three days, 60 centigrams in four days, or 32 centigrams in three days. The drug is advocated, therefore, as the best diuretic for pleurisy, the benefit being prompt, constant, and superior to that of any other diuretic with which the writer is familiar. The drug is also indicated in the first stage of disturbance of compensation in a valvular affection when the circulation is sluggish and the relaxed walls of the arteries allow infiltration of the tissues. Barium chloride stimulates the musculature of the walls of the arteries. It is also useful for the same reason in infectious disease when the pulse is becoming dicrotic from relaxation of the walls of the vessels and weakness of the intoxicated myocardium. Barium chloride arrests these disturbances or prevents them by its beneficient influence on the disease itself. Excessively high blood-pressure with weak heart is the only contra-indication. E. Pesci (Riforma Medica, vol. xx, No. 25; Journal American Medical Association, January 28, 1905).

BLADDER, PRIMARY SARCOMA OF THE.

Sarcoma of the bladder is most common after middle life (26 cases out of 50 occurring after the age of 40) and during childhood (14 cases out of 50 occurring under the age of 10), but it may occur at any age. It is more common in males than females (34 to 13).

The most constant symptom is hæmaturia. This symptom cannot, however, in many cases be considered as an early sign, as the date of its appearance is probably significant in the majority of cases of beginning ulceration of the neoplasm. Next to hæmaturia the most constant symptoms are those of cystitis and vesical irritation—*i.e.,* stranguary; frequent and difficult micturition; small stream; retention; purulent urine. Emaciation consecutive to the growth is present in advanced cases only. A calculus may or may not be present. In females the growth may invade the urethra and appear at the vaginal opening.

The disease is more rapidly fatal in

children than in adults. In those cases in which the diagnosis has been made early in the course of the disease, the neoplasm has been small, single, and apparently localized.

The growth may spring from the submucosa of any part of the bladder, but the most common location is at the base, in the vicinity of the ureteral orifices. The growth is usually sessile, with a broad base; is usually soft and friable, more or less lobulated, in some cases has a cauliflower or villous appearance. The growths are usually single, but in the later stages may be multiple. Metastases, as compared with sarcoma of other parts of the body, seem rare except in quite advanced cases. The varieties of sarcoma occurring in the bladder so far recorded are round-celled (large, medium, small, lymphosarcoma, and alveolar), spindle-celled, mixed-celled, giant-celled, fibrosarcoma, myosarcoma, myxosarcoma, and chondrosarcoma.

At the present time the only hope for the cure of sarcoma of the bladder appears to lie in the early detection of the neoplasm by means of the cytoscope or by exploratory incision, and its complete removal at this stage of the disease. J. A. Wilder (American Journal Medical Sciences, January, 1905).

CARBONIC OXIDE POISONING.

The writers have been studying to learn if it is possible to distinguish between poisoning from without and poisoning from within by this agent; that is, whether it was inhaled during life or permeated the tissues after death. They experimented with illuminating gas, using the sensitive palladium chloride test. The gas was introduced into the air-tight coffin holding the cadaver, and sometimes the tube was placed in the mouth. The results showed that there is no part of the body into which the carbon oxide does not penetrate in time, whether the gas is pure or diluted with air, stagnating, or constantly renewed. A very important sign that the gas has penetrated from without is the difference in color of the hæmoglobin in the muscles as they are nearer or farther from the surface of the body. There is no qualitative difference between the findings after carbonic oxide poisoning and of post mortem diffusion, but the quantitative difference is marked when the body has not been very long exposed to the gas. If completely saturated with it there may be no difference of any kind. In a recent case a woman was found dead with the tube of her gas stove in her mouth and the stopcock open. A relative asserted that criminal abortion had been forced on her and that the gas accessories were merely to divert suspicion. No traces of recent abortion could be discovered and tests for carbonic oxide in the blood aided in confirming the assumption of suicide. F. Strassmann and A. Schulz (Berliner klinische Wochenschrift, November 28, 1904, from Journal American Medical Association, January 7, 1905).

CARDIAC INSUFFICIENCY, CAUSES OF.

The author refers to experiments which show that so-called fatty degeneration is only another example of fatty infiltration. Fat is not visible in healthy muscle because as fast as it is taken up by the protoplasm it is used to supply the energy of the cell. Tissues microscopically fat-free have been found chemically to contain 20 per cent. No relation seems to exist between fatty heart and cardiac weakness. The normal heart contains 8 per cent. In phosphorus poisoning there is 25 per cent.; in pernicious anæmia, 13 per cent. In nephritis, malignant tumors, and tuberculosis there is some increase, but in myocarditis and chronic valvular disease the amounts found have been normal. Experimental researches fail to show that fat interferes with muscle work. Disease of the coronary arteries is a frequent cause of insufficiency, but extreme sclerosis has been found with absence of symptoms. Fibrous myocarditis, although many times associated with coronary sclerosis, often occurs independently. All cases of muscle incompetence, however, cannot be explained on the basis of anatomic changes. In obesity increased work is thrown on the heart. Insufficiency may be due to acute overdistension from violent bodily exertion. There is no justification for attributing it to nervous disturbances or exhaustion. Circulatory disturbances in the infectious fevers are probably due to paralysis of the vasomotor center. J. H. Pratt (Johns Hopkins Hospital Bulletin, October, 1904).

CERVIX UTERI, CANCER OF, TREATMENT OF, IN ADVANCED STAGES.

Severe surgical operations, involving appreciable mortality rates or a marked degree of additional suffering should not be employed in the treatment of carcinoma of the cervix uteri, except in very early cases. According to the reports of the exhaustive microscopic examinations in serial sections of the tissue surrounding the uterus in cancer of the cervix, there is no means of knowing before operation that eradication is certain in any given case of this disease, and hence such attempts must be reserved for the very earliest and most promising ones. The galvanocautery offers the best prospects for prolonging life, relieving pain, and lessening discharges in all other cases. J. Wesley Bovée (American Medicine, January 7, 1905).

CILIARY BODY, SYPHILOMA OF.

The first appearance of the syphiloma frequently is a small nodule in the iris-angle of the anterior chamber, from whence it takes its way outward through the sclerotic or into the anterior and vitreous chambers, with exudations in the former as hypopyon spurium. Only 9 per cent. of Ewetzky's series had been free from iritis. The pupil is mostly changed by posterior synechiæ of the iris and membranous exudations, preventing more or less the examination of the posterior parts of the eye. These are frequently more or less seriously affected; for instance, with congestion of the retina, retinitis in white patches, and post-neuritic atrophy of the optic disc. The shape and mobility of the globe are damaged in many ways. As to sex, there were 47 men against 215 women; 52 per cent. were between 20 and 30 years old; 28 per cent. ended in phthisis bulbi. In 30 per cent. the enucleation was made. Herman Knapp (Journal of the American Medical Association, January 14, 1905).

CONJUNCTIVITIS, PURULENT, TREATMENT OF.

The newer silver salts are more easily applied, safer in use, and produce better results than nitrate of silver. In case of ophthalmia neonatorum either protargol or argyrol is an entirely satisfactory agent. In cases of gonorrhœal ophthalmia in the adult, the results obtained when treatment is begun early are approximately the same with either preparation, but when once the cornea is involved, protargol appears, in these cases at least, to have afforded a better ultimate outcome. The application of cold during the stage of swelling in gonorrhœal ophthalmia is a dangerous procedure, and should be abandoned. Myles

Standish (Journal of the American Medical Association, December 17, 1904).

CONVULSIONS IN CHILDREN AND THEIR RELATION TO EPILEPSY.

The author states that a serious view of all convulsions occurring in infancy is compulsory and there is no justification for supposing that even a single convulsion in childhood will end with itself and have no further evil influence on the life of the child. Most cases which have arisen in connection with an extrinsic cause have also had a history of heredity or alcoholism in the parents, which are both predisposing causes of epilepsy. Even where there is no such history, and if it is assumed that a peripheral irritation is adequate in itself to produce a convulsion in a perfectly normal brain, yet the mere fact of the convulsions being often repeated makes the brain cease to be normal and creates a distinct pathological basis for the production of epilepsy. What the precise relation of such convulsions to epilepsy may be it is impossible to say, and for this reason it seems unfortunate that infantile convulsions and epilepsy in many text-books on diseases of children are dealt with in different chapters; for the impression is conveyed that there is a much greater difference between these two affections than, in the author's opinion, the facts seem to warrant. It is true that there is found the distinction between the two emphasized by Koplik, who says "epilepsy is a true disease of the nervous system and has nothing in common with, and no demonstrable relationship to, infantile convulsions." Holt also speaks of both affections as being quite distinct, and as a result of his large experience among children, he says, "in a highly susceptible nervous child a convulsion often means no more than an attack of migraine in an older person." It might, however, be said in passing that many physicians consider epilepsy and migraine to be nearly related. The serious view, however, here taken of infantile convulsions is borne out by Sir William Gowers, who says, "no convulsion in childhood should be looked upon as of little moment, no matter how prominent an exciting cause may be discovered." And again, "even a single fit in childhood indicates the need for careful supervision." Finally, Dr. Hughlings Jackson says, "I find it hard to believe that eccentric irritations of any sort can act on the nervous centers, when they are healthy, so as to produce a convulsion." R. O. Moon (Lancet, December 24, 1904).

CORYZA, ACUTE, ABORTIVE TREATMENT OF.

Internally, the writer employs sodium benzoate in the dose of 4 grams (1 drachm) for a child, 10 grams ($2\,{}^1/_2$ drachms) for an adult. This remedy succeeds in aborting an acute coryza or at least in shortening the duration of the disease in about 50 per cent. of the cases in which it is used. Tincture of belladonna, tincture of aconite and opium have been used, but their action is uncertain. Locally, the application of cocain in a 1 per cent. solution or a 1 to 1000 solution of adrenalin frequently gives relief. Irrigation with a pint of hot saline or boric acid solutions morning and evening tends to relieve an acute coryza. The abortive treatment should only be used in the first twenty-four, or at the most, forty-eight hours. After this time, the administration of sodium salicylate in the dose of from 2 grams to 4 grams (${}^1/_2$ drachm to 1 drachm) is recommended to relieve the muscular pains and to reduce the inflammation which accompanies this condition. Ruault (Journal des Praticiens, vol. xviii, No. 36, 1904.)

DENGUE.

Dengue is one of the few fevers in which a leucopenia persists from the first. Blood examinations are of great value in differentiating from malaria and dengue. Even though no parasites be found a slight leucocytosis with decided increase in the percentage of large mononuclears and transitionals is indicative of the former, while a leucopenia, with a normal differential leucocytic count or varying degree of a small mononuclear lymphocytosis and a marked eosinophilia late in the disease is characteristic of the latter.

Albuminuria is seldom seen in an ordinary attack of dengue, and then only in small amounts. The exact opposite is true of yellow fever. The period of convalescence in dengue is almost invariably ushered in by a pronounced small mononuclear lymphocytosis which persists for several days. It is suggested that the causative agent is a small diplococcus or a delicate bipolar staining bacillus closely resembling Pfeiffer's organism. It is probably transmitted by the respiratory tract, and its virulence is much increased by the presence of the essential meteorologic factors and by overcrowding. D. N. Carpenter and R. L. Sutton (Journal of the American Medical Association, January 21, 1905).

DIABETIC GANGRENE OF THE LOWER EXTREMITY.

An endarteritis obliterans is the main etiological factor in so-called diabetic gangrene. In the abscene of such arterial change it is believed that gangrene of the lower extremity will not often occur in diabetes. The form of diabetes presented in this type of case varies considerably from true diabetes mellitus. An expectancy line of treatment should be followed so long as the gangrene is confined to the toes. Amputation above the knee should be done as soon as the gangrene process involves the dorsum of the foot. H. J. Whitacre (New York Medical Journal and Philadelphia Medical Journal, January 28, 1905).

DIGESTIVE DISORDERS, TREATMENT OF.

The prevalent methods of treating digestive disorders give unsatisfactory results. An inability correctly to diagnose digestive affections, a tendency to treat all cases of indigestion by a routine method, and the injudicious administration of ferments are responsible. The author advocates a rational plan of treatment based on a careful physical examination, which should comprise all the organs of the body, and in doubtful cases also include examination of the stomach contents and fæces. Constipation must be corrected and the teeth and mouth should receive what treatment is necessary. Proper mastication of the food and healthful methods of cooking are essential, as well as moderate exercise, fresh air, sunlight, and rest. The various bitter tonics are useful, and antacids, such as sodium bicarbonate or magnesium carbonate, in some cases combined with an intestinal antiseptic and a mucous protective, will do much to prevent flatulence. Acute attacks are treated by carminatives, followed by a saline, an emetic, or lavage. A case is described which had been unsuccessfully treated with enzymes, and which promptly yielded to rational measures. These consist in assisting nature without rendering the functions dependent on medication, which in the long run reduces their activities instead of stimulating them. J. W. Hunter, Jr. (Medical Record, January 14, 1905).

DISINFECTION OF THE HANDS, ANTISEPTIC OR MECHANICAL?

From a general consideration of the subject and from experiments performed by himself and his assistants, the author expresses the opinion that the use of antiseptics in the disinfection of hands is a pure waste of time; that mechanical cleansing is the only method which produces any sort of results; and that of all the mechanical methods, the best one is the hot water and alcohol method ascribed by Ahlfeld. The writer scrubs his hands for ten minutes with hot water, soft soap, and by means of a sharp brush; he rinses them in hot flowing water and then brushes for five minutes with alcohol. The alcohol has three virtues: It is bactericidal, dissolves fat and epithelial cells ready to be desquamated, and shrinks the surface structures, thus preventing deeply-seated bacteria from infecting the field of operation, just as rubber gloves would do. During the operation, he does not rinse his hands with water, antiseptics, or saline solution, but with 25 per cent. to 50 per cent. alcohol. R. Schaeffer (Therapeutische Monatshefte, Bd. xviii, Nu. 11, 1904).

ECZEMA, INFANTILE, TREATMENT OF.

The author considers this a form of auto-intoxication due to disordered digestive action, and consequently the first indication is to attempt to regulate the gastro-intestinal tract. If the child is breast-fed, feedings should be at a definite time and for a definite period. Bottle-fed children should be given properly modified milk. Older children should be fed chiefly on milk, with a limited amount of eggs and vegetables. If any meat is given, white meat is to be preferred. No tea, coffee, or alcohol should be allowed. The bowels must be kept regular. Arthritic infants should be given alkalies; scrofulous ones cod-liver-oil, iron, or calcium glycerophosphate. In the sluggish eczema of children over five years arsenic may be administered. In cases which resist dietetic and internal treatment local applications are necessary. First the skin must be made as aseptic as possible by means of mild and non-irritating antiseptics or preferably by boiled water. The affected parts should be washed with cotton swabs—which must be thrown away after once being used—dipped in the solution. This is to be done several times a day and is to be followed by a dressing. If crusts are present they may be loosened by a poultice of potato starch, and later, if the area is not large, powders should be applied. On the scalp sterile oil containing a little salicylic acid is useful. Bathing is usually contra-indicated. Before using ointments, powders and solutions should be tried, and when these latter have initiated the treatment, ointment of salicylic acid, sulphur, tar, or oil of cade are indicated. In oily and impetigenous eczemas, dressings of silver nitrate have a favorable action; later tar or salicylic acid should be used. Finally, in children who resist the foregoing treatments, weak pastes of pyrogallic or chrysophanic acid may be tried. C. Clenet (Revue Française de Medécine et de Chirurgie, No. 32, 1904).

ENURESIS.

The author has used massage in this condition as advocated by Krauss, of Vienna, with good results. The movements are as follows: The rectum is freed of fæces and massage is applied by means of the index finger to the sphincter vesicæ. The idea of this procedure is based on an assumption of a relaxed condition of the sphincter vesicæ. The child lies in the lithotomy position, and with the index finger in the rectum, the sphincter vesicæ is gently tapped by the operator for a half to a minute. A deep circular massage is applied over the hypogastric region for two to three minutes. The patient, lying in the dorsal position, with the knees tightly drawn together, is told to resist while the knees are drawn apart; and with the knees widely separated, he is asked to resist while they are drawn together. The same resistant adduction and abduction movements are also employed with the legs. These movements occupy about two minutes. The patient, standing against a wall or door, crosses and recrosses one thigh over the other for a period of five minutes. The patient is next taken across the knee and with the side of the hand, the lumbar and sacral regions are sharply tapped very frequently by the operator, thus giving a vibratory sensation. In addition, as an excellent adjuvant, especially for its mental effect, electricity may be used. These movements, together with a solution of atropin, 1 grain to 2 ounces of water, 5 drops at 4 P.M. and 10 P.M., have given excellent results in the hands of the writer. Julius Ullmann (New York Medical Journal and Philadelphia Medical Journal, December 31, 1904).

EPILEPSY, TREATMENT OF, BY LIGATION OF LONGITUDINAL SINUS.

In operating on an epileptic of 54 the longitudinal sinus was accidentally injured and was tamponed to control the hæmorrhage. The patient was freed at one stroke from his epileptic seizures and has had no recurrence during the two years since. The benefit derived suggests that the seizure may be the result of a permanent dilatation of the veins on the surface of the hemispheres, causing irritation of the cortex. If the circulation in the cortex could be modified, the epilepsy would be cured. The author has acted on this assumption in another case since, applying a double ligature to the longitudinal sinus near its end. The technique is similar to that of ligation of the saphena for superficial varices. The results were almost as perfect as in the first case. The patient was a man of 23 who has had no seizures during the three months since the simple intervention, the particulars of which are described in detail. Delagénière (Semaine Medical, vol. xxiv,, No. 50, 1904).

EROTOMANIA.

Erotomania, like other manifestations of paranoia, is due to degeneration. It may occur in either men or women, but is more common in the former. Broadly, it is an affection of the imagination, a morbid extravagance of the ideal. In its individual manifestations it presents the characters of a love, pathologic and essentially psychic and devoid, moreover, of carnal appetite. There is nearly always, though not invariably, a tendency to personification, the subject foists his ideality upon a living person, or upon an inanimate object (statue, picture). In the latter case, his apostrophes and gestures disclose the personifying propensity.

The delirious idea of the erotomaniac, like others of the same class traceable to degeneracy, is impulsive, obsessional, irresistibly compelling. Though his intelligence may show him the consequence of yielding to his obsession, he is power-less to resist it. He should, therefore, not be held to a legal responsibility for his acts, but should be restrained, and, if necessary, committed to a hospital for the insane.

Erotomania may occasionally co-exist with nymphomania or some other form of sexual aberration, or with mysticism. The obsession of the erotomaniac is usually for an individual of the opposite sex. While erotomania may disclose itself in youth, it is really a disease of adult life, coming on after puberty, and ending not seldom in dementia. J. L. Corning (American Medicine, January 21, 1905).

ERYSIPELAS, TREATMENT OF.

The following modification of the well-known ichthyol treatment for erysipelas is recommended by the author: In the case of the limbs, a narrow piece of adhesive plaster is fastened several centimeters ahead of the eruption; it extends around four-fifths of the limb, the open place being in front of the portion least affected; a second strip is fastened 2 centimeters nearer the trunk, the open place being on the other side of the limb; a third portion is fastened still nearer the center portion of the body. In very few cases did the erysipelas extend even beyond the first strip of adhesive, and in no case beyond the second strip. In the case of the face, collodion is employed instead of plaster. It is brushed across the forehead and in front or behind the ears down to the neck, depending upon the extent of the disease. Both applications produce a firm pressing together of the skin and underlying structures, thus keeping the organisms and their toxins from freely circulating through the lymph-paths. The affected area itself is thickly covered with ichthyol. Before applying either plaster or ichthyol, it is necessary to wash the surface with benzine. The author claims to have had much better results with this modified method than with the ordinary treatment. F. Franke (Therapeutische Monatshefe, Bd. xviii, Nu. 11, 1904).

ERYTHEMA INFECTIOSUM.

The author calls attention to a disease which he says has been described independently by several well known pediatrists and which has clinical features distinct enough to justify its classification with the acute exanthemata. The priority of recognition as a separate disease entity belongs to Escherich. Erythema infectiosum is a feebly contagious disease, occurring chiefly in children between the ages of 4 and 12 years, with very slight subjective symptoms, and characterized by a maculopapular, rose-red rash, pronounced on the cheeks, legs, and outer surface of the arms. The specific agent is unknown. The disease occurs in epidemics and often follows an outbreak of measles or rötheln. Both sexes are equally affected. It occurs most frequently in the spring and summer months. The period of incubation varies from six to fourteen days. The disease may be ushered in by a slight feeling of malaise, weakness, and sore throat, but in the majority of cases the first symptom noticed is the eruption. This is the most important and often the only symptom. It appears invariably on the external skin, usually first on the face, chiefly the cheeks. The skin is hot to the touch, is swollen, but is not sensitive; nor does it itch. The whole appearance is suggestive of erysipelas. The eruption is confluent over the cheeks, and the edges are well defined, slightly raised and distinct from the normal skin. The area of confluent eruption is rather sharply limited in front by the nasolabial folds and above by the temples. Laterally, it extends to the angles of the jaws. Discrete spots are often seen on the forehead and chin. The rash fades from the face after four or five days. On about the second day the eruption makes its appearance on the body, where it is most marked on the outer surface of the legs and arms. The trunk is involved to a much less degree, and may be almost free. The hands and feet are the last portions of the body to be affected. An evanescence is often observed which is perhaps peculiar to the disease. The eruption is not followed by desquamation. No hæmorrhage results on pinching the skin. The lymph glands are not enlarged. The subjective symptoms are conspicuous by their absence. Measles can be excluded by the absence of involvement of the mucous membranes, of all constitutional sypmtoms and of Koplik's spots. In rötheln the rash spreads rapidly over the entire body and is of a different character from that seen in erythema infectiosum. There are also constitutional symptoms. H. L. K. Shaw (American Journal Medical Sciences, January, 1905).

ETHYL CHLORIDE.

The writer is strongly in favor of ethyl chloride as an anæsthetic, providing its dangers are recognized. It is portable, of stable composition if it is kept in the dark, easy of administration, acts rapidly, and provides a narcosis of several minutes after the removal of the inhaler, which narcosis is quiet and sleep-like. But if complete muscular flaccidity is required the anæsthetic must be pushed to the limit of safety. The writer prefers Braine's modification of Ormsby's inhaler. The same preparation of the patient is necessary as for ether narcosis. Almost any position of the patient is safe, but the recumbent posture is best for children. The head should not be either too far backward or forward. A good average dose for an average adult is five cubic centimeters. It is better to give a full and rapidly induced anæsthesia than to admit air and economize the drug. Ethyl chloride should not be administered in the following conditions: diseases of the larynx; inflammatory lesions or tumors in, or adjacent to, the respiratory passages; goitre; all conditions giving rise to urgent dyspnœa; and in long operations. H. Hilliard (Lancet, December 17, 1904).

FRACTURES, CARE OF, FROM STANDPOINT OF THE GENERAL PRACTITIONER.

Fractures cause the physician more trouble than any other trial in his professional life. In such cases, if the proper precautions were always taken, many of the difficulties would be avoided. The x-ray is of great value in giving a graphic description of the exact amount of damage. A green-stick fracture is often unrecognized. Although such an error is not likely to lead to any serious consequences, the patient is made more comfortable when the proper dressings are applied. A most troublesome class of fractures are those which occur about the joints, as at the wrist, elbow, shoulder, or ankle. In these cases a small bit of the bone is torn off, and is often bound so firmly by the ligaments that the ordinary signs of fracture are absent. These injuries are often treated as sprains. Such an injury causes more inconvenience to the patient on account of the joint involvement than does a fracture of the shaft of the long bones with considerable displacement. The writer calls attention to a bad method of dressing which should be avoided. When the bone is placed in position, the dressings are applied, and are allowed to remain on for three or four weeks. If in that time they become loose, a new bandage is simply wrapped around the old dressings. This is extremely dangerous, and one that will always give a poor result. Whenever doubt exists as to the nature of the injury, the mystery should be cleared up at once, before the bones have become united, which may result in a deformity that lasts the rest of the patient's life. W. S. Newcomet (Medical News, December 10, 1904).

HÆMOPTYSIS, TREATMENT OF.

As soon as hæmorrhage begins, the head and shoulders should be raised and a hypodermic injection of morphine given, the dose varying from $^1/_6$ to $^1/_3$ of a grain. Thirty to forty grains of calcium chloride dissolved in a little water should be injected high into the rectum, and an iceberg applied to that part of the chest immediately underlying which is the most active tuberculous focus. Heat should be applied in order that blood may be drawn to the lower limbs. The value of morphine in hæmorrhage depends upon its power of stimulating the inhibitory center, by means of which the cardiac action is slowed. As to the value of the administration of calcium chloride, it may be said that active fibrin ferment is rich in calcium, and wherever coagulation takes place, calcium in some form or other is present; and the conditions which favor coagulation in the lungs are feeble, for blood, after circulating several times through the pulmonary vessels without being allowed to enter the systemic circulation, loses its power of clotting. H. Hyslop-Thomson (Lancet, December 17, 1904).

HEPATIC ABSCESS.

Hepatic abscess is a pathologic condition that has been recognized for many centuries. It is widespread in its occurrence. The so-called "tropic liver abscess" occurs most frequently in the hot countries. Sporadic cases of tropic liver abscess are encountered as exotic manifestations in the temperate zones. It is impossible to tabulate definitely a general ratio of frequency of occurrence. Hepatic abscess is at times the result of trauma; usually, however, the result of invasion of the hepatic tissue by various forms of parasites, protozoa, and pyogenic organisms. That form commonly known as "amœbic abscess of the liver," is in reality not an abscess, but rather a necrosis and liquefaction of hepatic tissue. When pus is encountered, it is the result of contamination by pyogenic organisms. N. W. Sharpe (American Medicine, January 28, 1905).

ICTERUS, PATHOLOGY OF.

In a condition like icterus, which is a symptom of many different diseases, there is always a desire to find a common factor underlying all cases. In the early days of pathology it was assumed that in all instances this common underlying factor was a mechanical obstruction of some sort, but it very soon became evident that in many cases no such mechanical obstruction could be found. In such cases the signs of biliary stasis in the liver itself, dilatation and overfilling of the bile ducts, stasis of bile in the interlobular bile passages and deposition of bile pigment in the liver cells, are entirely lacking. Inability to account for such cases on mechanical grounds led to the conception of hemagenous as opposed to hepatogenous icterus. It was thought that bile could be manufactured not only in the liver, but also in the blood. The latter form of bile formation was thought to occur in toxic and infectious conditions in which a large number of blood corpuscles were broken up in the circulation. As a result of this conception all cases of icterus which could not be classed as obstructive were ranged under hematogenous icterus, or as Naunyn and Minkowski called it, icterus from polycholia. Later it was shown that something more than excessive blood destruction was needed to account for such cases when the liver was acting normally, and in recent years many have held that the second necessary factor was a disturbance in the function of the liver cells themselves. This change in the liver cells has been compared to the disturbance in the kidney cells which produces albuminuria. This hypothesis explained especially well the icterus of infections or intoxications, and that of circulatory or nervous disturbances, because in just such conditions it was easy to imagine that the secretory powers of the liver cells might be affected. Some writers went so far at this time as to almost deny to mechanical factors any importance at all.

The recent work of Eppinger, which was based on painstaking histologic examinations and a method which rendered the walls of the bile capillaries easily visible, has led back once more to a mechanical theory of icterus. He found in various forms of icterus a dilatation of the bile capillaries with elongation, sinuosity, varicose swellings, and even rupture of the walls. As a result, the bile was able to gain entrance into the perivascular lymph spaces. The obstruction, though mechanical, was not in the larger bile passages, but in the capillaries, which were either compressed by new-formed connective tissue or blocked by bile thrombi. These observations have been confirmed in the main by Abramow and Samoilowicz. Recently Winckelmann (Zeitschrift für klin. Medicin., vol. lv), working at Minkowski's suggestion, has gone over the work afresh. The point in which Eppinger's conception differs most radically from the preceding theories of icterus is in the rôle played by the lymph spaces surrounding the bile capillaries. Doubt has been cast on the existence of such spaces, and even Eppinger himself does not describe them as definite vessels, but merely as spaces between the walls of the bile capillaries and the liver cells. According to Minkowski, there is little doubt that such spaces exist. Eppinger seems to think that in icterus the bile must reach the blood by means of the lymph channels, and there is some support to this view in the old observations of Harley and von Frey, who showed that if the thoracic duct be ligated at the same time as the ductus communis choledochus no icterus would occur. This of course necessitates the view that while the blood capillaries of the liver are permeable for some substances they are not permeable for bile, an idea which is by no means unthinkable in the light of our present knowledge of cell specificity. Another point in which Eppinger's conception differs from preceding ones is the recognition of the bile-stained plugs in the capillaries as bile thrombi. These are not made up of pure bile, but are bile-stained concrements which form when, as a result of disturbances in the liver cells, abnormal substances are excreted with the bile. These bodies can, perhaps, more reasonably be compared to the urinary casts than to thrombi.

While this work of Eppinger explains the pathology of many cases of icterus, Minkowski points out that all cases examined since its publication have not shown these lesions. This is especially true of cases of infectious icterus. In just such cases it has been shown that the bile is often abnormal, and may contain albumin. Such cases are probably due primarily to the liver cell changes, though the bile thrombi and mechanical stasis may occur as secondary phenomena. Minkowski thinks that though the work of Eppinger has greatly extended our knowledge of the pathology of icterus, we must still recognize two forms—the true obstructive icterus, in which mechanical obstruction plays the main part, and the toxic, cyanotic, and nervous forms, in which the disturbance in the function of the liver cells is the important factor. Editorial (Journal of the American Medical Association, January 21, 1905).

INTESTINE, THE ROLE OF POISONS IN THE.

The writers conclude from their investigations that in the normal condition of the digestive tube innumerable poisonous substances are constantly present. In addition there are toxic substances, the diastases, for example, which are indispensible to the nutritive changes of the body. The organism has various means for defending itself, and the tendency of disease is to break down such means of defense. If the views of pathogenesis advanced by the authors are true, they signify that general therapeutical measures are inadequate. They indicate that the enemy is to be attacked directly and also that the means of defense must not be broken down. Normal organic products are often morbific and the physiological digestive secretions themselves are such at times. Before destroying them it is necessary to allow them to accomplish their proper functions and maintain intact all the means of defense with which the body is provided. Charrin and Leplay (Semaine Médicale, November 23, 1904.

KNEE-JOINT EFFUSION, RECURRENT.

In a series of 750 cases of recurrent knee-joint effusion, the effusion was recurrent either spontaneously or after another injury, usually very slight. In all the cases an interval had elapsed during which the joint was apparently entirely independent of any constitutional conditions. Of these, in 428 the symptoms of internal derangement was very precise. The proportion of male to female cases was as sixteen to one. Eighty cases were treated by operation—removal of pedunculated bodies, and of internal and external semilunar cartilages. From his experience the author concludes that when the usual methods of treatment have failed to effect a cure, exploratory operation is indicated. Further, that extensive displacement of one or even both semilunar cartilages may take place without the recurrence of any of the symptoms which are commonly regarded as characteristic of the lesion. The cases in which the displacement is greatest give rise to the fewest symptoms. Constitutional conditions seemed to play a part in 241 cases. Osteoarthritis was present in 107 cases. Radiant heat baths, massage, and electric vibration were the only modes of treatment which seemed to have more than a palliative effect. In 23 recent cases they appeared to effect an actual cure. Rheumatism and gout were present in 30 cases, and as a rule the usual constitutional measures gave relief. In 42 syphilitic cases no permanent benefit was obtained until a course of antisyphilitic treatment was adopted. In 28 cases there was a history of gonorrhœa, 17 of the patients having obvious gleet. Operations were performed to relieve tension, aspiration effecting the purpose as perfectly as incision. An interesting class of cases were the ones where there was a history of malaria, mostly contracted in South Africa. Eighteen such cases were seen. There were thirteen instances of quiet effusion in young people, a condition to which the author has previously called attention. W. H. Bennett (Lancet, January 7, 1905).

LACTIC ACID FORMATION, EXPERIMENTAL STUDY OF, WITH SPECIAL REFERENCE TO THE STOMACH.

Lactic acid develops in all organic substances containing carbohydrates, whether sugar or starch; and in some instances even while yet in solid form, such as bread and meat, for instance, at certain seasons which are especially favorable for bacterial development, some lactic acid exists already; and on dissolving such substances in water the lactic acid reaction can soon be detected.

Lactic acid formation is due in all cases to bacterial development, even the so-called sarcolactic acid of meat. Furthermore, many kinds of bacteria can by their development bring about the formation of lactic acid in substances containing carbohydrates; but the bacteria usually vary in the different substances.

Lactic acid does not give the usual reaction with the usual tests when an inorganic acid is also present in sufficient strength.

The lactic acid development is hindered when there is an antiseptic present, such as HCl, for example, acting against those bacteria which bring about the lactic acid development; but the lactic acid that had been formed before HCl was added is not destroyed when the latter is added. It is only masked as far as the ordinary reactions are concerned and its further development arrested; but it can be separated by means known to chemistry.

HCl enters in combination with albuminoids, and after some time it does not give the usual reaction, though it was marked when it was first added; and then bacteria appear, and also lactic acid begins to form, the latter in substances containing carbohydrates. E. Palier (American Medicine, January 7, 1905).

LEAD POISONING, EYE LESIONS OF CHRONIC.

Substances likely to be dangerous to workers are carbon disulphide in the vulcanization of rubber, ethyl bromide, mercury in all forms, wood alcohol, arsenic, dinitro-benzol, anilin and anilin colors, carbonic oxide, hydrogen sulphide, lime, chinon compounds, and lead. The last of these is often underestimated in importance but forms a most treacherous and dangerous foe to the workman. The author cites thirty different trades in which the use of lead was followed by damage of greater or less degree to the eyes of 130 patients. The gravity of the condition is shown by the statistics of 114 cases in which cure could be effected in only 40, while atrophy of the optic nerve was noted 36 times. The ocular symptoms caused may be of many sorts and degrees of intensity, but even when cured always leave the patient with a susceptibility to the poison which makes a continued exposure very hazardous. L. Lewin (Berliner klinische Wochenschrift, December 12 and 19, 1904).

LEUCOCYTOSIS, NATURE AND SIGNIFICANCE OF.

Poverty in small lymphocytes exists in connection with a great impairment in body nutrition and cell metabolism. This condition exists in typhoid fever, tuberculosis, and a variety of debilitated conditions. It cannot, therefore, be interpreted as being characteristic of any particular disease. Whenever it exists it is always to be considered a potent factor when estimated in connection with the history of the case and the associated clinical symptoms.

On the other hand, the lymphocytosis that so frequently accompanies a well-marked convalescence, from a condition in which poverty of lymphocytes previously existed, would seem to indicate a condition of increased physiologic activity, thus corroborating Virchow's theory of a nutritive and formative hyperacidity of a convalescent organism. A. M. Holmes (Journal of the American Medical Association, January 28, 1905).

MALARIA, THE HEART IN.

Report of three cases of malarial infection in which symptoms of cardiac insufficiency were observed which resembled closely those seen in acute endocarditis and myocarditis accompanying infectious diseases. A study of these cases convinced the writer that the cardiac disturbances were not merely the result of changes in the innervation of the heart, but were indications of a severe involvement of the myocardium. There is no doubt that the myocardium may be affected in severe cases of malarial infection, especially in the æstivoautumnal type. These changes are usually functional only at first, but later on they may become anatomical, and more permanent. If the proper treatment be applied to the malarial infection, however, these cases may be favorably influenced. The functional disturbances of the heart may, however, continue for a long time after the malaria has been cured, and it is common in such cases to find a weak and irregular pulse, weak cardiac sounds, cyanosis, etc. The practical conclusion is that malarial patients with cardiac complications should not merely be treated as malarial cases, but should also receive the proper treatment for their cardiac condition. They should be treated as convalescents from an endocarditis, and the proper cardiac remedies should be employed. The condition described is often taken for the effect of anæmia, but this is a mistake. Another important point is that too large or too frequent doses of quinine should be avoided in the treatment of malaria, especially when the heart is involved. Moderate doses of quinine at intervals of three hours ($^1/_2$ gram hypodermically, for example) are just as efficient and less dangerous than the enormous doses sometimes given. P. Gallenga (Gazetta degli Ospedali e delle Cliniche, November 20, 1904; from New York Medical Journal and Philadelphia Medical Journal, January 28, 1905).

MASTOID OPERATIONS, CHOICE OF TIME OF ELECTION IN.

Delay in operation of cases of mastoiditis complication or as a sequel of the exanthemata or influenza should not be permitted beyond from thirty-six to forty-eight hours, if profuse discharge from the middle ear by incision or rupture, with ice to the mastoid and general antiphlogistic measures do not markedly improve the condition. Even with normal or slightly elevated temperature, if there is œdema over the mastoid and sagging of the posterosuperior wall of the external canal, operation should not be delayed, for with what seems to be an improved general state, in the majority of cases operation will eventually be needed.

In cases showing infection with streptococci, while at times for days the symptoms lie in abeyance, such cases should not be treated tentatively on appearance of pronounced symptoms of aggravated pain about the ear, fresh rise of temperature, lessened or suppressed discharge from middle ear, but should be operated on without delay in order to prevent the extensive caries which occurs in from two to three days in such infection.

In cases of slow, painful recovery, even if promising in the end to be complete, it would be wise to operate after a reasonable period of observation, in order to assist Nature in her task.

Since this paper deals with private patients who are seen without undue delay, and who have usually had the benefit of good care of a palliative kind, it may be stated that as a rule applying to these cases of chronic otitis media, that the radical operation with its disfiguring results may quite often be replaced by the simple operation conjoined with careful curettage of the middle chamber.

Cases of chronic otitis media may be permitted more latitude if there arise no signs pointing to intracranial involvement. However, if there be present constant otorrhœa, neuralgic pains over the part, lowered general health, with nervous irritability, perhaps vertigo, operation should be undertaken after from two to six weeks, if treatment has failed to relieve the condition. D. A. Kuyk (Journal of the American Medical Association, January 21, 1905).

METAL FERMENTS, ACTION OF, ON METABOLISM AND IN PNEUMONIA.

The author announces that a solution of a metal, in a proportion of .00009 to .0002 grams to the cubic centimeter, has a most remarkable action when injected subcutaneously. It displays a physiologic action, like that of a true ferment, out of all proportion to the minute amount of the metal employed. The amount of urea may be increased by 30 per cent., in consequence, while there is liable to be a copious discharge of indoxyl in the urine and the uric acid may triple its former figure. The respiratory quotient is increased and the blood-pressure transiently raised. The injection is followed also by leucocytosis. As certain of the vital processes are thus stimulated by these metal ferments, as the author calls these extremely weak solutions of metals, he has tried to utilize them in the clinic. In pneumonia the phenomena observed during the crisis resemble those that follow injection of the metal ferment. In 14 cases of pneumonia an injection of from 5 to 10 cubic centimeters of the metal solution hastened the crisis, the temperature dropping to normal before the seventh day, but the physical signs were not apparently modified. The metal ferments evidently stimulate the reaction of the organism, re-enforcing the natural resisting powers and superposing on the vital and personal reactions a parallel activity revealed by the more rapid disappearance of the correlative symptoms of the infection. Fifteen cases of pneumonia were treated with antidiphtheria serum, normal horse serum, lactoserum or with yeast extracts, and their action seemed to be along the same lines as that of the metal ferments. The writer regards it as probable that the effect of these serums and of the metal ferments is practically identical. The latter may possibly substitute the former when more is learned in regard to their physical phenomena and biologic action.

The therapeutic use of the metal ferments is an attempt to apply in the clinic the new data furnished by physics and chemistry in the last few years in regard to radioactivity, ionization and atomic energy, diastases, zymases, minutely divided metals and catalytic phenomena. The solutions are obtained by passing a small electric arc between metal electrodes submerged in distilled water. The metal passes into the fluid in the proportion of .09 to .2 millimeters of the metal used to each cubic centimeter of the fluid. A solution thus made displays a number of the reactions supposed to be peculiar to the organic diastases, and these reactions can be accelerated or inhibited by agents capable of influencing the diastases in the same way. The kind of metal used—silver, gold, or platinum—did not seem to make any difference in regard to the results. The author suggests that the effect may be due to a condition of the metal atoms similar to that noted in the vacuum of the Crookes tube, the so-called "radiant state," in which the atoms are separated to the extremest limits, liberated, autonomous in their activity and susceptible of developing more energy. This hypothesis may explain the vital action of arsenic and iodine found normally in the tissues and also the remarkable therapeutic efficiency of certain mineral waters. A. Robin (Bulletin de l'Académie de Médicine, December 6, 1904).

NEURASTHENIA, WORK AS A REMEDY IN.

The author offers a protest against the almost universal treatment of neurasthenia by rest. The neurasthenic suffers fatigue or irritability beyond the reasonable results of mental or physical exertion, and is thereby incapacitated for his ordinary occupation or for enjoyment of life. Neurasthenics lead faulty lives; in many cases there is a tendency to overestimate the importance of small things or to worry. Worry is closely associated with a sense of fatigue, often not distinguishable from that which follows arduous labor, except that it is not relieved by physiologic rest. Some of the profoundest neurasthenics have never over-functioned in any discoverable way. A feeling of fatigue is brought on by the mere thought of exertion. Things that the patient likes to do are less fatiguing than distasteful activities. When there is lack of fat and blood, the rest cure may do good, but the great need in most cases is to bring about gradually the conditions of a normal life by pleasant and progressive occupation. Most neurasthenics are adaptable people, with artistic taste and critical ability, and there is an inborn love in man for making beautiful things out of crude elements. The writer has established a shop for the manufacture of pottery and woven fabrics, having a competent teacher and assistants. The patient after a few days' rest, and without warning, is required to do something, and a gradually progressive program is written out for each day and entrusted to the nurse. This eliminates anticipatory fatigue. When the patient turns out work of value it is sold and the proceeds credited to the maker. The accumulated indications point to the probability of fairly quick results. H. J. Hall (Boston Medical and Surgical Journal, January 12, 1905).

OPTIC NEURITIS AND FACIAL PARALYSIS.

Report of a case of postpapillitic optic atrophy with a history of prior right-sided facial paralysis with pain in jaw and with a noticeable flattening of the right side of the face from loss of subcutaneous fat, together with enophthalmus, all on the right side, while the optic atrophy was bilateral, most marked on the left. He finds in the literature only seven similar cases of this association of facial paralysis and optic neuritis, though a number of cases of optic neuritis have been reported in connection with polyneuritis. The atrophy and sinking of the eyeball is evidently rarer, as he has found no reports of a similar case. He has, however, been able to examine a case of Dr. Spiller's with flattening of the face and enophthalmus following rheumatic facial paralysis and implying, he thinks, as in his own case, some involvement of the seventh nerve. There were chloroanæmic and disordered menstrual symptoms in Shumway's case, but he does not attribute to them the optic atrophy. His conclusions are given as follows: "1. Optic neuritis is occasionally associated with facial paralysis, either alone or as part of a multiple neuritis; the etiologic factor may be rheumatism, but at times appears to be infection, the nature of which is as yet undetermined. The optic neuritis is usually of the retrobulbar type, but a decided papillitis may be present, and be followed by more or less marked atrophy. In cases of multiple neuritis of the cranial nervevs, the eye grounds should be examined for possible optic nerve complication. 2. In facial paralysis, flattening of the face and enophthalmus may appear, and are to be considered as due to a neuritis of the fifth nerve, and not to involvement of possible sensory fibers in the facial nerve." E. A. Shumway (Journal of the American Medical Association, February 11, 1905).

ORTHOPÆDIC SURGERY, THE DIAGNOSTIC VALUE OF TUBERCULIN IN.

Tuberculin is the best and most reliable diagnostic agent for incipient tuberculosis of bones and joints. Its proper administration is attended by no permanent harmful effects. The dosage is variable and it is rarely necessary to exceed a dose of 6 milligrams. The local signs are of equal, if not greater, importance than the general reaction in bone and joint tuberculosis. Tuberculosis practically always reacts to tuberculin. Diseases other than tuberculosis may possibly react to tuberculin, but the evidence on this point is not conclusive. The diagnosis of tuberculosis can be made earlier and with more certainty by means of tuberculin than by radiography. The tuberculin test is applicable to private and dispensary as well as to hospital practice. W. S. Baer and H. W. Kennard (Johns Hopkins Hospital Bulletin, January, 1905).

PANCREAS, LYMPH FLOW FROM THE.

The injection of secretion or ileum extract causes an increased flow of lymph from the thoracic duct. After ligature of the portal lymphatics secretion still causes an increased flow of lymph, whereas ileum extract has no effect. The increased lymph flow produced by secretion is not caused by the depressor substance, but by secretion itself. There is a close relation between the secretion of pancreatic juice and the increased flow of lymph. The lymph is derived entirely from the pancreas, and is probably formed as a result of metabolic changes occurring in the pancreas during the secretion of juice. F. A. Bainbridge (British Medical Journal, December 31, 1904).

PARAURETHRITIS.

Gonorrhœal infection of paraurethral ducts occurs in the male, and it may manifest itself either during the course of an ordinary urethritis or before urethral symptoms have appeared. Paraurethritis may, in very early stages, simulate inflammatory lesions of the surface of the glans, notably beginning chancre, chancroid, or herpes. Para-urethral infection, once it has become established, can be destroyed only with great difficulty, the organisms reappearing in abundance even after cauterization of the duct. The infection can be overcome without surgical intervention, and the continual existence of a neighboring focus of infection does not necessarily mean a bad urethral invasion if careful prophylactic measures are taken. J. W. Churchman (Journal of the American Medical Association, January 14, 1905).

PERTUSSIS TREATED BY THE ELASTIC ABDOMINAL BELT.

The belt employed by the writer is thus described: A stockinette band is placed on a baby with whooping cough, in the same manner as is done by orthopædists before applying the plaster of Paris jacket. This band extends from the axillæ to the pubes and fits the baby snugly. Two muslin shoulder straps are used to prevent the band from slipping down. On this stockinette band a single width of silk elastic bandage is sewn, extending entirely around the body and covering the abdomen. This silk elastic bandage is of the same quality as that used for elastic stockings. If the child is under a year old, it will be found necessary to use but one width (five inches) of this elastic bandage; in an older child, two widths will often be found necessary to entirely cover the abdomen. This silk elastic bandage is pinned in place when very slightly on the stretch. After it is pinned in place, it should be sewn to the stockinette band underlying it, all around its entire edge; this procedure keeps the silk elastic belt flat and prevents its rolling up or becoming creased. The lower projecting portion of the stockinette band should be pinned down to the outside of the diaper, or other clothing, thus keeping the elastic belt smooth over the abdomen. The author states that out of eighteen patients on whom this belt was used, cough was relieved in twelve and vomiting in all but one. T. G. Kilmer (Journal of the American Medical Association, December 10, 1904).

PERTUSSIS, TREATMENT OF.

In the treatment of pertussis, the author uses vapor from the following mixture: Naphtalin, 180 parts; powdered camphor, 20 parts; essence of eucalyptus and terebinthine, of each 3 parts. This preparation is mixed with boiling water, and the patient is so placed that he breathes its vapor for one hour a day. Of 15 early cases treated thus, a rapid diminution in the number and intensity of the attacks was noticed. Mild cases were cured in three to four weeks; severe ones in four to six weks. Cases without complications received no other treatment except proper diet and hygiene. No bad effects following the inhalations were noted. L. Itzkowitz (Allgemeine Wiener medicinische Zeitung, No. 30, 1904; from American Journal Medical Sciences, January, 1905).

PNEUMONIA: IS IT INCREASING?

The returned mortality of the United States for ages between 15 and 60 during the past twenty years shows a diminishing mortality from the class of respiratory diseases commonly returned as pneumonia. Of the pneumonias occurring in this age period a large majority are true lobar pneumonia. Fifty-eight and a half per cent. of the population of the United States, and 66.5 per cent. of the population of cities are between the ages of 15 and 60. The incidence of lobar pneumonia on a major part of the population is therefore diminishing.

The return mortality of the United States, for ages above 60, indicate that the mortality from the class of respiratory diseases commonly returned as pneumonia has increased from 21.9 per cent. to 22.6 per cent. in ten years, the population at the same age in the same period having increased from 6.2 to 6.6 per cent. The urban mortality for the same age has grown in ten years from 16.1 to 19.5, and has been accompanied by an increase of population in that age period laterally from 5.23 to 5.27 per cent. Several pathologic conditions added to the group of pneumonias, and not provided for in statistics, are included in the returned mortality of pneumonia for ages above 60. For 6 per cent. of the total population lobar pneumonia may have increased in the past ten years, though satisfactory evidence of an increase has not been offered.

The return mortality of the United States for ages under 15 (about one-third of the total population) shows an apparent rise of mortality for the group of respiratory diseases commonly classed as pneumonia. The acute respiratory diseases of children were in former years commonly mistaken for affections of the nervous system. Year by year for thirty years increasing numbers of deaths formerly found in the indefinite accounts and in the class of nervous diseases have been transferred to the class of respiratory diseases, and especially to the pneumonia account. Of the mortality recorded as due to pneumonia under the age of 15 years not more than 10 per cent. is due to lobar pneumonia. A small though considerable incidence of lobar pneumonia in children under the age of 5 has come into view of late years, but there is no evidence that lobar pneumonia has increased in this age period. The remaining 90 per cent. of the recorded mortality ascribed to pneumonia includes the conglomerate group of broncho-pneumonias, nearly all of which are secondary or complicating causes of death, and should be referred in the mortality tables to the primary causes of death.

Since 1890 a new cause of infantile mortality has come into view, an acute respiratory infection, attacking infants of two years old and under, commonly returned under the diagnosis or pneumonia, sometimes returned as due to a disease of the nervous system, and probably due to influenza. J. S. Fulton (Journal of the American Medical Association, January 14, 1905).

PNEUMONIA, PREVENTION AND TREATMENT OF HEART-FAILURE IN.

According to the author, there are three principal and many secondary causes of heart failure in this disease. The principal causes are, first the toxæmia; second, the mechanical obstruction to the circulation in the lung, causing overburdening and dilatation, especially of the right heart; third, the alteration in the physical and chemical constitution of the blood, which, apart from the toxic effect on nervous and muscular action, central and cardiac, predisposes to the formation of antemortem clot. Among the most important of rare causes are hyperpyrexia and a sudden paralysis of inexplicable origin.

Two great classes of drugs are at our disposal. One may be used to support the heart and circulation during the progress of the disease, and the other reserved for emergencies. The first class includes digitalis, barium chloride, strychnine, and atropine. Digitalis may be used as soon as hepatization is present. Before this, aconite and veratrum are indicated. For emergency service the author recommends adrenalin, camphor, and musk. For administering the first named he prefers to employ suprarenalin triturates containing $^1/_{20}$ grain active principle in a very small quantity of sugar of milk. These are preferable to solution for lingual administration. They dissolve quickly and do not fill the mouth with liquid. Such a tablet may be given every ten minutes, if needed; as a rule, one every one-half hour to two hours suffices. The drug likewise raises vascular tone—a great advantage. Camphor may be injected hypodermically in a 10 per cent. solution in sterilized olive oil or in 10 per cent. solution in ether. Exact dosage is unnecessary, about a syringeful, say from 20 to 30 minims, can be used. The effect is prompt and usually lasts for some hours. The injection is to be repeated as needed. Five or 10 drops of tincture of musk given hypodermically exert a powerful influence in overcoming the tendency to cardiac collapse, and the action of musk is even more sustained than that of camphor. Care should be taken to secure a reliable preparation of musk. Much on the market is useless. S. Solis-Cohen (Journal of the American Medical Association, December 10, 1904).

PNEUMONIA, THE MANAGEMENT OF.

The author insists on the ventilation of the sick-room, and the frequent moving of the patient from side to side, so as to prevent hypostatic congestion of the unaffected lung. Venesection may abort the disease in plethoric patients. Antipyrine may be given in one dose of a gram, followed by a brisk purge, with some morphine to stop the pain. Dry cuping may be used at this stage. The old treatment with aconite or veratrum will probably have just as good an abortifacient effect. The patient should not be overfed. One quart of milk with two raw eggs furnishes sufficient nutriment for twenty-four hours. Expressed beef juice is a good heart muscle stimulant. Bowels should be moved once daily. High fever may be reduced by sponging with tepid water the abdomen and extremities, but not the chest. If the leucocytosis is deficient, some nuclein preparation should be given. Poultices are permissible if desired. Codeia is the best sedative for an irritable cough; for a stimulant expectorant ammonium muriate with a little ipecac in syrup of citric acid may be given. Alcohol should be used only when the circulation calls for it. One to 3 drachms every three hours is probably enough. Nitroglycerine will equalize the circulation; strychnine restores a flagging, tensive, and irregular pulse. Adrenalin should be used cautiously at this stage if at all. Camphor and olive oil may relieve an acute heart failure. Oxygen should be used in severe cases. It keeps the patient more comfortable, though in no way curative. Chloral and ergot may quiet delirium, morphine to be used, if at all here, with the greatest caution. The ice cap may relieve headache. The value of serum treatment is as yet unproved. O. T. Osborne (New York Medical Journal and Philadelphia Medical Journal, January 7, 1905).

PRESBYOPIA, PREMATURE.

Subnormal, paretic, or insufficient accommodation, or premature presbyopia, even paralysis of the accommodation, of a functional or reflex nature, not dependent upon organic disease, exists in a certain, probably much larger than suspected, proportion of young or middle-aged persons. The youngest of the author's patients was 20, the oldest 50. Several cases show that the subnormal accommodation existed during adolescence. That 18 were women and 9 men has only the significance that women are more subject to eye-strain than men because they do more near work with the eyes, are less resistant, etc. It is usually permanent or ingravescent, although there was complete recovery in one case.

It may be caused by such degrees and kinds of ametropia as compel the renunciation of the accommodative function, especially high hyperopia or astigmatism, etc.; monocularity; glare of foot-lights; the use of magnifying glasses in engraving, etc.; long-continued abuse of the eyes; a direct inhibiting reflex to the accommodational mechanism. Seventeen of the writer's patients had unsymmetric astigmatism, and most of the others an ametropia or anisometropia unconquerable by the visual mechanism. In many cases there may be no discoverable or pathologic cause, the determining factor being a personal and physiologic peculiarity. It is apt to be forgotten that presbyopia really begins with the beginnig of life, as the recession of the near point commences in infancy, and is continuous throughout life up to the age of 60 or more. In the normal progress, and when uncomplicated by ametropia, this recession, at about 45, reaches a degree which makes reading wearying at fourteen inches with ordinary-sized type, because the book and writing cannot be held further away; because the letters are so small, and because the macular image is too minute. The crystalline lens of the eye loses its inherited and high elasticity with each year of life. As it has no neurologic connection with the brain, and is not nourished by red blood-corpuscles, this loss of elasticity is most natural. It is consequently as natural and inevitable that its inherited and primary elasticity should differ in different individuals and that local ocular and also systemic disease and denutrition, eye-strain, etc., should still further make the ingravescent inelasticity of varying degrees of progress. The resultant symptoms will depend upon the amount and morbidity of the near work demanded of the accommodation. The number of those under 45 with subnormal accommodation is thus probably much higher than supposed, and this fact gives the suggestion to be constantly upon guard as to its presence.

It is of all degrees and varieties, and may even differ in amount in the two eyes. It may complicate the condition of head tilting, torticollis, etc., with secondary spinal curvature, due to a peculiar axis of astigmatism in the dominant eye. The pathogenic results of dextrocularity and sinistrocularity should not be forgotten.

The pathognomonic symptoms are the persistence of common eye-strain reflexes (such as migraine, headache, indigestion, intestinal fermentation, constipation, nervous disorders, dermatoses, etc.) after proper correction of the ametropia and muscle imbalance, and especially an inability to carry on continuous near work.

The diagnosis is impossible by any of the ordinary tests. The loss of power has come on so slowly or has been so long present that the patients have no suspicion that the print is not clear, and it is usually possible for them to read even the finest letters with ease, for a short time. The comparative rarity of the cases also throws the oculist off his guard, and routine begets carelessness.

Abnormally wide pupils of one or both eyes, the demand of high corrections for distant vision, certain occupations, certain forms of ametropia and anisometropia, high heterophoria, unrelieved reflexes, photophobia, etc., are suggestions that there may be accommodation weakness.

It is an active cause of heterophoria, adding to the proof of the common dependence of muscle imbalance upon ametropic and optical causes. It is therefore an added demonstration, if it were needed, of the mistake of the tenotomists who operate for heterophoria. In the vast majority of cases, heterophoria is ametropic in origin, innervational in Nature, and is an effort of Nature to lessen eye-strain. The results of operation are therefore evil, and make the cure more difficult by physiologic methods.

The treatment is by means of bifocal spectacles which accurately neutralize the error of refraction for distant, and the deficiency in accommodational power for near vision. As in all treatment whatsoever, success here also depends upon the amount of irreparable damage done before the appropriate therapeutic measure is found. Usually relief is sudden and striking. G. M. Gould (American Medicine, January 21, 1905).

PROSTATECTOMY.

In the weakest and most run-down cases the author has employed permanent suprapubic drainage. This is rapidly performed under eucain, and he thinks it is the safest of all procedures. Except in absolutely desperate cases, he believes prostatectomy under local anæsthesia is safe as compared with the operation under general anæsthesia. The use of adrenalin with the ordinary local anæsthesia greatly prolongs and adds to its efficiency, prevents the pain and congestion following, and renders the operation almost bloodless. The knowledge of the nervous anatomy of the parts is, of course, absolutely essential, and the course of the pudic nerve and the long pudendal nerve close to the base of the tuberosity of the ischium are important. He favors the use of Young's tractor, and recommends allowing sufficient time for the anæsthetic to act before making the incision. With sensitive or nervous patients he finds it often better to use a little nitrous oxid gas or primary ether anæsthesia, as the infiltrating solution cannot reach the parts involved in the deeper enucleation. These parts, however, are supplied by the hypogastric plexus of the sympathic and the discomfort is not necessarily great. He reports a case in which he thinks this method of operation was directly life saving. M. B. Tinker (Journal of the American Medical Association, February 11, 1905).

PUERPERÆ, CARE OF.

Continued asepsis is advised after delivery. For the first two or three days a piece of gauze wet with a 1 to 10,000 bichloride solution is placed over the vulva beneath the sterile vulva pad. Early vaginal examination and douching is condemned. After from ten to twelve days hot douches undoubtedly help the involution of the uterus. In some cases where the uterus continues to relax immediately after delivery, an intrauterine douche of acetic acid is given with good result. The author says he often doubts the efficacy of the abdominal binder, although for the first two or three days it does keep down the gas and supports the abdominal walls. And in short-waisted women, who have carried the child high and well out in front, it prevents an anterior relaxation of the abdominal walls. But for women who carry the child low and well backward, they are more or less unnecessary. Consequently, if such cases are bothered by the binder after the third to fifth day, it is to be discarded. To insure as complete involution as possible, it is advised that on the second day the patient should be turned first on one side and then on the other; on the fifth day she should commence to lie on her abdomen for shorter or longer periods and be encouraged to sleep in this position, if possible. This change in posture favors the escape of the lochia and allows the uterine ligaments to contract, so favoring normal anteflexion. The writer advises keeping the patient in bed at least two weeks and longer if any signs of subinvolution persist. If involution is delayed, hot vaginal douches, boroglyceride tampons, ergot, quinine, and strychnine are of service. The routine vaginal examination should be made before any case is discharged to determine the possible existence of erosions, inflammations, displacements, etc. J. D. Voorhees (Medical News, January 14, 1905).

PUERPERAL INFECTION, SALINE INFUSION IN.

The author presents data which unmistakably establish the favorable action of saline infusion in puerperal infection, showing that the course is modified for the better and the patient displays slow but constant improvement. In order to be effectual the emunctories must be still functioning. When the kidneys and the glands are no longer working properly, then saline infusion can do comparatively little good. A large amount of fluid should be removed from the intestines or the blood pressure should be reduced by venesection. In this way the body is freed from a certain amount of toxins, the blood-pressure reduced, and the diffusion of the artificial serum through the vascular system favored when it is injected later. In the chronic forms of puerperal infection, saline infusion is especially valuable, on account of its stimulating, cleansing, and eliminating action. J. Jaworski (Centralblatt f. Gynakologie, Bd. xxviii, Nu. 45; Journal of the American Medical Association, December 31, 1904).

PUPILS, INEQUALITY OF THE, IN DISEASES OF THE LUNGS AND PLEURA.

In a series of cases of diseases of the respiratory system in which inequality of the pupils was a symptom, it has been noticed that mydriasis may occur on the same side as a pneumonia consolidation. This is believed by the writer and others to have some connection with the malar flush of that disease and to be due to vasomotor disturbances. The writer's observations, while confirming the occurrence of pneumonic mydriasis, do not bear out the statement that it occurs on the same side as the disease, as, according to his observations, it is frequent on the opposite. In a period of six months he met with 3 cases of acute bronchitis showing inequality of the pupils. When the acuteness of the symptoms subsided the pupils became equal. Pupiline quality is more frequent in emphysema complicated with chronic bronchitis; 11 cases were collected in six months showing this phenomenon. In 120 cases of pulmonary tuberculosis inequality of the pupils was present in 26. The writer refers to similar observations made by Souques, who believed that apical disease caused this inequality. This statement is not borne out by the writer's observations, as his 26 cases showed all varieties of tuberculosis of the lungs; at the same time he believes that only cases presenting actual infiltration are likely to show inequality of pupils. There is no connection between the side affected and the mydriatic pupil. Persistence of this symptom in tuberculous patients is remarkable, lasting sometimes for months. There may be remission of the symptom, but it reappears on the same side. Inequality of the pupils does not produce any subjective result. In 4 cases of pleurisy there was pupil inequality lasting several weeks; all these cases showed serous effusion. The suggestion offered by the writer is that a mediastinal gland irritates some branch or branches of the sympathetic. Deherain (Presse Medicale, No. 79, 1904).

ROENTGEN RAYS, INFLUENCE OF, ON INTERNAL ORGANS.

The writer's research on mice, rabbits, guinea-pigs, and dogs has confirmed the statements of others in regard to the action of the Roentgen rays on the internal organs. The effect observed is entirely independent of that noted on the skin. With the exception of the testicles, the deep action of the Roentgen rays seems to be exclusively restricted to the organs concerned in the making of blood. The action is manifested in two ways: in the annihilation of the lymphoid tissue and in the destruction of the cells of the bone marrow and spleen pulp. This reaction of the lymphoid tissue is specific. It occurs long before any other organ or system of organs shows any changes from the exposure, and the dosage can be calculated to limit the action of the rays to this tissue alone. The reaction is further distinguished by the lack of any latent stage, by its sudden onset, its stormy course, its early termination, the abscence of any after-effects, and by the rapid restriction of what has been destroyed. In all these points the reaction is directly the reverse of what is observed in regard to the action of the Roentgen rays on other material. This destruction of the lymphocytes must always be reckoned with as an inevitable accompaniment of any exposure. It does not seem to entail any undesired or dangerous by-effects. H. Heineke (Mitteilungen a. d. Grenzgebieten, Bd. xiv, Nos. 1 to 2; from Journal of the American Medical Association, January 21, 1905).

STOMACH, DISEASES OF THE, CRITICISM OF RECENT SURGICAL LITERATURE ON.

In America about 1 per cent. of the population present a gastric ulcer or scar in the autopsy-room. As a clinical disease, not more than 2 per cent. of all patients (not medical patients only) suffer from gastric ulcer. Under appropriate treatment the severer complications of gastric ulcer can be largely prevented.

The mortality from gastric ulcer is grossly exaggerated in surgical literature, and under proper medical treatment will not exceed 4 per cent. in all classes of private patients. That gastric ulcer predisposes to gastric cancer to any marked degree is improbable. That the majority of cancers are preceded by ulcers is certainly untrue. That gastro-enterostomy would prevent such metamorphosis has not been demonstrated. Gastro-enterostomy has a certain mortality. It often fails to relieve gastric disorders due to ulcer. It should be followed by careful dietetic treatment. It may lead to fatal complications irrespective of the primary disease.

Pyloric obstruction is not in itself an

indication for surgical interference. Many cases recover under medical treatment. Patients will be best served if they submit to proper medical treatment and seek surgical advice only at the suggestion of their medical attendant. H. W. Bettmann (Cincinnati Lancet-Clinic, January 21, 1905).

SUPRARENAL EXTRACT, INFLUENCE OF, UPON ABSORPTION AND TRANSUDATION.

Intravenous injections of suprarenal extract retard invariably the processes of absorption and transudation. Subcutaneous injections also often show a retardation of these processes; the effect, however, is neither strong nor constant. In frogs the retardation of absorption of some substances was recognizable only when suprarenal extract was previously mixed with that substance, or when both substances were injected into one and the same lymph sac. It is assumed that the suprarenal extract increases the tonicity of the protoplasm surrounding the pores of the endothelia of the capillaries, thereby reducing the facility for the interchange between the blood and the tissue fluid. S. J. Meltzer and John Auer (American Journal Medical Sciences, January, 1905).

SUPRARENAL INSUFFICIENCY.

The author has observed 9 cases of acute suprarenal insufficiency of variable intensity, ending not in death, but in recovery. The syndrome that has been noted in these cases is no other than that known classically as characteristic of suprarenal insufficiency, the only peculiarity consisting in its manner of development. The symptoms develop very rapidly, and besides, they can disappear spontaneously, at the same time with the illness which they accompany. For this acute suprarenal insufficiency is due to an infection or an intoxication. The writer has always noted that the insufficiency occurs in the course of a toxic or infectious malady, medical or surgical. The longest duration of this acute suprarenal insufficiency that the writer has observed was one month and a half, in a woman who was suffering from an outbreak of syphilis. This affection has yielded to the employment of suprarenal extract. The patients treated by the author recovered from the suprarenal insufficiency in a few days. In eight of the nine patients the cure appears to be definite, for the symptoms, which disappeared with the casual illness, have not returned after an interval of several months. In one case of recurrent bronchitis, however, with every attack, the patient became asthenic and the skin became dark. But when the attack of bronchitis passed, so did the insufficiency. It would be very difficult to designate to what lesion of the capsule the syndrome corresponds. The fact that this insufficiency is secondary to an intoxication or infection is the characteristic which gives it a true clinical importance. G. Bossuet (Gazette Hebdomadaire des Sciences Médicales de Bordeaux, October 30, 1904).

SYPHILIS, SCARS AND THE RETROSPECTIVE DIAGNOSIS OF.

Genital scars are more common and more marked in hospital than in private practice. In many cases of nervous or other late forms of internal syphilis the genital region is free from scars. A single scar on the skin of the penis suggests syphilis. A single scar on the mucous membrane also suggests syphilis as a rule—occasionally the local chancre. Multiple scars on the mucous surface of the penis only suggest the local chancre.

Multiple scars on both mucous membrane and skin also suggest the local chancre. Inguinal scars, together with scars on the penis, suggest the local chancre. An inguinal scar without any penile scar (if venereal at all) suggests gonorrhœa. Extensive scarring of penis or groin, or both, suggests phagedæna. Genital scars, with scars on other parts of the body, suggest an ulcerating syphilide. Arthur Cooper (British Medical Journal, January 21, 1905).

TABES, THE PAINS OF.

Pain is a frequent symptom of tabes—far more common than ataxy and beginning earlier in the course of the disease. The symptoms of tabes are probably due to a chemical toxin, which results from syphilis. A ferment is produced which slightly influences the albuminous bodies in the process of their production, yet enough to convert them into nerve poison instead of a food. This toxin influences chiefly the elements of the lower sensory spinal neuron. The pains of tabes are an early and distressing symptom: they are often thought to be rheumatic. They may be classified as follows: *A*. Brief momentary pains, succeeding each other after a short interval in the same place. (1) Superficial. These seem to be on or just under the surface, and are usually felt at one spot. They are most common on the limbs, especially the lower legs and feet. They are extremely brief but recurring; from their character arose the name "lightning pains." They have the remarkable effect of leaving the skin *very* tender, and thus may occur where sensibility to pain has been lost. (2) Deep seated. These pains cannot, as a rule, be definitely located, but sometimes are referred to the joints. They have the same characters as the superficial pains, but are not so momentary, usually lasting several seconds. They are chiefly felt in the limbs, and they are not followed by hyperæsthesia. *B*. Prolonged pains, lasting for days or hours in the same place. They are most common in the trunk, and are usually deep seated, an exception being the girdle pain or sensation. They sometimes closely simulate sciatic neuritis. A common variety is a sense of distressing tension on the tendons or muscles. Very intense pains have often a burning character. There is very seldom any exciting cause. Widely diffused distressing sensations also occur, such as numbness, tingling, swelling, etc. In one form of the disease the pains so dominate the scene as to justify a separate classification of such cases. The author has seen 11 such cases, all in adult men, and with a specific history in 9 cases. The pains were the symptom for which relief was sought. They were severe and neuralgic in character. The danger of ataxy in such cases is small.

The extremities of the peripheral nerves are thought to be the source of the pains. Only the superficial pains can be relieved by local measures. Chloroform sprinkled on lint and covered with oiled silk, is often useful. Cocaine administered electrically is sometimes beneficial. Deep injections of cocaine are of little service in pains in the softer substance of a limb. As regards internal medication the coal tar products stand above all others. Phenacetin, antipyrine, and antifebrine are the ones most used and of the highest merit. Antifebrine is certainly the most effective. Sometimes the suffering is so intense as to require morphine. Chloride of aluminium, in doses of 5 to 10 grains thrice daily seems to lessen the tendency to recurrence and the severity of the pains. Salicylates sometimes have the same effect. The use of iodides and mercury belong to the treatment of the disease rather than of the pains. W. R. Gowers (British Medical Journal, January 7, 1905).

TENOTOMY OF THE TENDO-ACHILLES IN PARTIAL AMPUTATIONS OF THE FOOT, ALSO IN OBLIQUE, COMPOUND, AND COMMINUTED FRACTURES OF THE TIBIA AND FIBULA.

It is a well-established clinical fact that after a tenotomy of the tendo-Achilles (when the foot is kept at rest) a process of repair does take place and satisfactory functional use of the foot is the result. It is much easier to maintain the foot in the exaggerated flexed position after the tenotomy of the tendo-Achilles than with any form of splint, anterior or posterior, metallic or plaster. There is much less pain, as the foot and ankle joints are placed at absolute rest. When the patient commences to walk none of the resistance of the contracted heel cord is present, so there is but a slight limp. In oblique and comminuted fractures of the tibia there is much less danger of overriding of the fragments of bone after a tenotomy. This greatly simplifies the care of the leg and helps to prevent deformity. J. P. Webster (Cincinnati Lancet-Clinic, January 21, December, 1904).

TETANUS, BLANK CARTRIDGE.

The writer has investigated blank cartridges from several makers with special reference to their bacteriological contents, employing cultural and incubation, as well as microscopical methods. The findings were rather negative as regards the tetanus bacillus, but the *Bacillus ærogenes capsulatus* (Welch) was present in a large proportion of the cartridges examined. Notwithstanding this fact tetanic symptoms developed in a number of the animals inoculated, and in still other animals inoculated from cultures from these. His conclusions are: *B. ærogenes capsulatus* (Welch) is present in a large proportion of the wads of the three makes of the cartridges examined. The wads of the Peters Company, inoculated in rats, guinea-pigs, and rabbits, produced characteristic symptoms of tetanus. The powder of the three varieties of cartridges examined were nagative for *B. tetani* and *B. ærogenes capsulatus.* His efforts at isolation of *B. tetani* from the wads have so far been unsuccessful. There is abundant evidence, from clinical observations and animal experiments, that the wads of certain blank cartridges contain *B. tetani.* D. H. Dolley (Journal of the American Medical Association, February 11, 1905).

TONSIL, FUNCTION OF THE.

The author has made careful histological studies and brings forward three propositions for discussion. These are: 1. The older forms of leucocytes are derived by a continuous development from the younger lymphocytes. He thinks the lymphoid cell must be considered to be a young form of leucocyte capable of growing and undergoing certain morphological changes. 2. The lymphocyte is originally derived from the epithelial structure. In this connection the thymus gland plays the most important rôle.. Recent research has practically established the fact that there is a direct conversion of the epithelial cells into lymphocytes in the center of the ingrowing sprout of epithelium in the thymus, before any outside structures could have influenced this metamorphosis. 3. There exists a strong histological evidence that lymphocytes are directly derived from the epithelium of the tonsillar crypts. In the development of the tonsil there is an ingrowth of epithelium into the mesodermic tissue before any lymphoid cells can be seen in this region. The first lymphocytes in the tonsil are found directly around this epithelial ingrowth and are characterized by fine anastomosing processes of protoplasm. A careful histological study has convinced the author that the epithelium of the crypts exhibits a marked tendency toward constant growth. This is shown by the penetration of the epithelial cells into the parenchyma of the tonsil and the formation of keratoid masses in the lumen of the crypt. There also exist transitional cells by which all stages may be traced between the epithelial cell and the lymphocyte and the variation of types in the latter is most marked in the region of the cryptal epithelium. The degree in infiltration of the epithelium holds no relation to the cryptal contents. On the other hand, the ingrowing sprouts of epithelium possessing no lumen show as much, if not more, infiltration than the true crypts. The complete destruction of the cryptal epithelium is a rare occurrence, almost always a sufficient number of epithelial cells being left to provide an intact barrier along the surface toward the cryptal lumen.

The author thinks he is justified in saying that the truth of his three propositions has been established, and that an affirmative answer must be given the question, "Is the tonsil a primogenial source of leucocytosis?" If to the tonsils is accorded the function of leucocytic primogenesis, their presence in the human economy is explained. The leucocytes are intimately connected with various tissue changes, and the tonsils are the largest and most fully developed at the time of life when tissue changes are most active,—in childhood. The tonsils take up the function of the thymus gland after this; atrophies earlier in life. Furthermore, the author thinks that the adenoid tissue in the adult may be carrying on the same work which was accorded the tonsils in childhood. G. B. Wood (University of Pennsylvania Medical Bulletin, October, 1904).

TONSILLITIS AND ARTICULAR RHEUMATISM, RELATIONS BETWEEN.

During the last four years the author has had occasion to treat 17 cases of articular rheumatism, and noted evidences of tonsillitis in all but 4, and in these there was a peritonsillar abscess. The special form of tonsillitis was always the chronic, desquamating, inflammation with the yellowish-white, bad smelling "tonsil plugs" which form in the follicles. This follicular tonsillitis is responsible for many cases of articular rheumatism, and this disease can be warded off or recurrences prevented by incising and cauterizing the follicles and eventually excising part or all of the tonsil. The virus of articular rheumatism finds its way into the tonsils and induces acute tonsillitis, which may or may not be specially noticed by the subject. The virus then lurks in the recesses, latent but still virulent. It induces, alone or with other agents, a chronic follicular angina with or without the formation of plugs. When an exacerbation of this follicular angina occurs the door is thrown wide for the invasion of the body by the rheumatism virus. The tonsil plugs being very infectious foreign bodies, are liable to help on the disease process, and at any time assist in the development of a recurrence. Gürich (Münchener medicinische Wochenschrift, November 22, 1904).

TUBERCULOSIS AND MORTALITY IN CHILDHOOD.

Among the children of the poor in London tuberculosis is absolutely most fatal during the first two years of life, but, relatively to all other causes of death, becomes progressively more fatal until the fourth year. There is no specific relationship between measles and whooping-cough on the one hand and tuberculosis on the other. Catarrhal lesions of mucous membranes are the paramount predisposing causes of tuberculosis in early life, and measles and whooping-cough are potent in this regard only through the catarrhs accompanying them. About 50 per cent. of children dying of tuberculosis in childhood have had neither measles nor whooping-cough. While the infection of tuberculosis in childhood is mostly airborne, primary infection of the abdomen is by no means a rarity. W. P. S. Branson (British Medical Journal, January 14, 1905).

TUBERCULOSIS, HEALING OF.

The writer asks why, if all are subjected to the infection, does the vast majority escape and only a comparatively small proportion develop a recognizable tuberculous lesion? The painstaking and exhaustive inquiry into the past history of a tuberculous invalid is often full of surprises. One feature, for instance, recurs with such persistent frequency that it merits some attention, and that is the striking difference in time between the presumptive evidence of disease and the first demonstrable evidence, so that at the onset of the recrudescence the original outbreak has been forgotten or regarded as having no relation to the present trouble. So that it is extremely probable that the initial lesion following a tuberculous infection is often obscure in its clinical manifestations and frequently escapes identification. There is nearly always a prompt and very often successful tendency on the part of the organism to a more or less complete repair followed by an interval of apparent health. Following this interval, which may extend into a period of years, there is a strong tendency to relapse. More often than is supposed the real incipiency of the disease is marked by sharp constitutional disturbance. Attention is called to the frequency with which it is possible to trace in the history of a tuberculous patient a first presumptive evidence of disease, followed by a more or less extended interval of apparent health before arriving at the demonstrable onset, which, in the light of the history, must be considered a recrudescence. Whatever may be the facts in an individual case, the safest and most practical policy lies in regarding every apparent recovery from tuberculosis as merely an arrest of the disease brought about by an acquired immunity which suitable conditions are very prone to destroy. If the presence of tubercle during the period of arrest following the first and unrecognized onset is ever to be recognized, it is most likely to be done through the discovery of definite reactions in the blood serum of the infected. The generally accepted prognostic significance of a Diazo reaction in tuberculosis has application chiefly, if not solely, to the last stages of the disease, and when temporarily present in the early acute manifestations, or in acute exacerbations of chronic lesions, need not necessarily indicate an unfavorable termination. Its disappearance, if present, would be one of the first clinical evidences of improvement. H. M. King (Medical Record, January 7, 1905).

TUBERCULOSIS IN THE UNITED STATES.

The author reports progress in the organization of the medical profession and the public against tuberculosis in the last few years, including a list of the special sanatoria for patients suffering from this disease in the United States and Canada. These appear under various names—hospital, sanatorium, sanitarium, home, etc. The proper designation, he holds, is sanatorium, derived from the Latin word *sanare*, "to heal," while sanitarium evidently comes from the Latin word *sanitas*, "health," and is usually employed to designate some specially healthful locality suitable for convalescent patients or an institution for the care of nervous and mental diseases. That this is coming to be the general understanding of the term is shown by the adoption of the word sanatorium by all the more recent establishments and some of the old ones. The term "home" suggests an asylum, a place which the patient will enter and never leave, and from his observation he does not think that these institutions, as a rule, are as well equipped for curative purposes as are the regular sanatoria. One institution on his list is a seaside sanatorium for tuberculous children, an institution of special value for this class of cases. Multiple institutions for scrofulous children will be required in the fight against consumption. He speaks highly of special tuberculosis dispensaries, a number of which have been established in the large cities, and he thinks that special wards in general hospitals for this class of cases are next best, though not equal to special institutions. Isolation of consumptives in asylums and prisons is desirable, and Dr. Knopf commends the Agricultural Colony connected with the Texas prison as a worthy example. He holds also that such establishments would be of great advantage to indigent convalescents discharged from sanatoria, especially those who had formerly followed unhealthy occupations. He pleads for the co-operation of the various boards throughout the country in combating the ravages of tuberculosis. S. A. Knopf (Journal of the American Medical Association, February 11, 1905).

TUBERCULOSIS, PULMONARY.

The writer reports several cases to show that pulmonary tuberculosis originates in the apex by way of the lymph channels in the neck, which transmit the infection to the parietal pleura of the upper part of the chest, which forms adhesions with the visceral pleura. The appearance of stitches in the apical region is significant of this mode of infection. The author condemns massage of enlarged cervical glands, and believes infection on the right side more frequent on account of the greater mobility of that side of the chest. M. Wassermann (Berliner klinische Wochenschrift, November 28, 1904).

TUBERCULOSIS, PULMONARY, FIRST ANATOMICAL CHANGES IN.

It is difficult to determine what pathological lesions initiate a tuberculosis of the lungs, since the changes are already far advanced in most cases which come to autopsy. Thus the author found only two cases suitable for study in several hundred autopsies. He concludes as follows: Pulmonary phthisis in adults is generally due to a recent infection with tubercle bacilli and not a result of an exacerbation of a latent process acquired during infancy, as is held by so many. In most cases the lungs themselves are the starting point of the process; in other words, pulmonary tuberculosis is a primary and independent lesion. The disease begins as a rule in the intralobular bronchi of the apex of one lung, in the form of a productive, tuberculous peribronchitis. Owing to loss of elasticity, as a result of caseation of the primary neoplastic tissue, a circumscribed dilatation of the bronchial lumen will follow. The process spreads from its primary sites in different ways. It travels both in centripetal and centrifugal direction along the bronchus and its branches, giving rise to a tuberculous, peribronchial lymphangitis. The neoplastic tissue surrounding the bronchus may readily break through the bronchial lumen, both at the primarily and secondarily infected sites and the symptoms of a specific tuberculous bronchitis will soon appear. Cheesy bronchitis and peribronchitis of the intralobular bronchus and its immediate branches are thus the first stage of the tuberculous lesion. The process may also extend to the adjacent tissue, when it generally retains its productive character and presses together the alveoli of the lung. As soon as cheesy masses have ruptures into the bronchus, an aspiration occurs into peripherally situated areas, and several patches of broncho-pneumonia will appear, each one of which corresponds to the terminal end of a bronchus. This may be called the second act of the process. Most recent cases examined were in this broncho-pneumonia stage with beginning central caseation as far advanced that an idea of the original structure could only be obtained by staining elastic fibers.

The blood-vessels are not rarely affected by a productive process which surrounds them like a belt and goes hand in hand with a proliferation of the intinia. Vessels of larger caliber are, however, free. The elastic fibers are destroyed late and then in a purely mechanical way. The broncho-pneumonia distribution of the initial foci may also be seen in hematogenous miliary tuberculosis and in the experimental tuberculosis of animals; it argues, however, strongly in favor of a primary infection of the lungs in most cases.

There can be no doubt that bacilli are often inhaled and the fact that they settle so frequently in the apices is best explained by diminished powers of overcoming an infection here. In children the bronchial nodes are generally affected, first, from the respiratory passages and the lungs are involved secondarily. Bronchial tuberculosis of children has a tendency to remain latent for a long period and encapsulation is never perfect, but with adult age the dangers of propagation become less, owing to calcification and proliferation of connective tissue. At this stage, the bacilli are no longer transported to the glands, but to the lung itself. Secondary involvement of the lungs in children is due to rupture of cheesy material through the walls of the bronchus nearest the node or else by extension of the process into the perivascular lymph-channels of the bronchus. The secondary foci within the lungs do not develop in a typical way, like the primary, unless they spread by way of the bronchi. A. J. Abrikossoff, (Virchow's Archiv, Vol. 178, No. 2; Medical News, December 31, 1904).

TUBERCULOSIS, THE TRANSMISSION OF.

The author's paper shows that, in Japan at least, the chief if not only source from which tuberculosis is spread is man. The native Japanese cattle are practically free from the disease, while human tuberculosis, including the intestinal variety, has been known since the beginning of medical history. The author presents the following formal conclusions: Human tuberculosis is as frequent in Japan as in the civilized countries of Europe and America. Primary intestinal tuberculosis is relatively common in adults and children, although cow's milk plays no rôle at all in the feeding of children. There are large districts in Japan, where, in spite of the existence of human tuberculosis the cattle remain absolutely free from the disease. In these regions it is not customary to consume either meat or milk from bovines. This is very important proof of the fact that under ordinary conditions human tuberculosis is not infectious for bovines, as the opportunities for infection certainly cannot be lacking. Among Japanese in general very little cow's milk is used and especially is it employed but little for the dietary of children. Under natural conditions the native animals show but very little susceptibility for perlsucht. If large doses of perlsucht bacilli are inoculated into them either intravenously or intraperitoneally, they become tuberculous to a certain degree; they do not seem to be at all susceptible to subcutaneous infection. The imported and mixed race animals are very susceptible to perlsucht. Human tuberculosis is not infectious for native and mixed race animals. S. Kitasato (American Medicine, January 7, 1905).

TYPHOID FEVER, RUPTURE OF THE MUSCLES IN.

Considering the frequency of muscular lesions in typhoid, it is curious that rupture should seldom occur. Violent movements, such as take place in delirium, appear to be the chief cause, the muscle most usually affected being the rectus abdominalis. As a matter of fact the real cause is not accurately known. The male sex is most usually affected. Muscular rupture occurs in the third week or during convalescence, and sometimes accompanies degeneration of the bony structures. The author describes a most exceptional case in which rupture occurred between the fifth and sixth day of the disease. The patient's mind is usually clear; he is conscious of a feeling of prostration, and at the time of rupture of sudden pain and tenderness sufficiently severe to cause him to cry out. Examination at this time reveals an irregular depression outlined in the substance of the abdominal rectus. The size varies. A little later swelling due to hæmorrhage is noticed; the condition may be unsuspected until the hæmatoma is noticed, which forms an ovoid tumor with the lesser extremity pointing to the pubes. It is rare for it to exceed the size of an orange. The skin is movable, and it is even possible to slightly displace the tumor laterally. In due time an ecchymotic tinge appears in the skin, varying in its intensity according to the thickness of the muscle and the impermeability of its sheath. Sometimes hæmorrhagic discoloration is first noticed below the pubes and at the upper part of the thighs. Absorption may take place, but it is not so usual as suppuration, which occurred sixteen times in 35 cases, and appears to be due to the presence of Eberth's bacillus. The prognosis is grave, chiefly because muscular rupture occurs in cases of severe typhoid, death being due to myocarditis or some other complication of the disease. But even in those cases where death is not due to one of the usual complications of the disease suppurating hæmatoma is serious, as the resulting abscess may point internally, and set up septic peritonitis. So soon as the diagnosis is made surgical interference is called for, as delay may expose the patient to risk. Perochaud (Gaz. Méd. de Nantes, No. 38; from British Medical Journal, January 14, 1905).

UTERINE MYOMATA, ELECTRIC TREATMENT OF.

In spite of the shortcomings of this method, it has been further studied by the writer, who has perfected a method which apparently gives satisfactory results. His plan is to produce firm uterine contractions by strong faradization, with the idea of causing the blood-vessels to contract, and thus to check hæmorrhage, while at the same time the nutrition of the tumor is interfered with, and it diminishes in size by a process of absorption. One electrode is passed through the cervix into the uterus, while the other is applied to the abdomen. If possible the treatment is continued daily for from twenty to thirty minutes, and the current is used as strong as the patient can stand it. Both the strength of current and the frequency of application must be carefully regulated at the beginning of treatment in order not to overtax the patient. The author has never observed any bad effects from the treatment, and has found that the metrorrhagia is entirely controlled and the tumors are greatly reduced in size. E. Witte (Deutsche medicinische Wochenschrift, November 3, 1904).

UTERINE RETRODEVIATIONS.

The writer discusses whether operations for these conditions are necessary; whether they are safe surgical procedures, and whether they have been sufficiently successful to warrant their advocacy in the future. She answers each question in the negative. In 1000 cases taken from the records of her clinic, 39 per cent. were found with retrodeviation. In 15 per cent. of these there were no gynæcological symptoms. The remainder were recorded as complicated with definite pathological conditions, tumors, pyosalpinx, chronic disease of ovaries, myometritis, etc. She notes the effects of fixation on an organ, the interference with circulation, etc., and from all the data in her observation and from what she has found in the literature, she concludes that a normal uterus may lie in any position in the pelvis without causing symptoms, and that when these occur they are due to other pathological complications. This answers her first question. As regards the safety of the operation of ventrofixation, she quotes from numerous authorities showing its effects on the progress of pregnancy and delivery, and the dangers of strangulation, ileus, etc. Vaginal fixation is almost as bad in its results as ventrosuspension, and the best that can be said of the methods of shortening the round ligaments is that they are not dangerous except by weakening the abdominal wall and increasing the risk of hernia. On the other hand, they are unsuccessful in a large percentage of cases and, in view of the answer to the first question, are unnecessary. Lucy Waite (Journal of the American Medical Association, February 11, 1905).

VOMITING, RECURRENT.

The author defines recurrent vomiting as a symptom group closely related to migraine. It is autotoxic in origin and characterized by recurrent attacks of nausea, persistent vomiting, and great prostration; heredity is the most important predisposing factor. Both auto-toxins and intestinal toxins may play a rôle in producing this symptom group, but the author does not believe it is always produced by the same toxins. The largest percentage of cases, however, is produced by toxins very closely related to, or identical with, the purin bodies. Functional incompetency of the liver is an all-important factor. As to the pathology of the disease, little is known. The belief is justified that the disease is an auto-intoxication produced by toxins closely related or identical with the purin bodies, followed by a secondary cyto-intoxication, which may contribute to the symptoms in the latter stages of the attack.

In the treatment of the attack, normal saline solution and benzoate of soda are the important remedies. For curative treatment, change of climate is of great importance, if only for a few months during the year. Diet should be carefully restricted, particularly as children suffering from recurrent vomiting have, as a rule, abnormally large appetites in the intervals between the attacks. They must be carefully guarded against taking an excess of food of any kind, and are to be made to cultivate the habit of drinking water between meals. Medical treatment consists in relief of constipation. The drugs giving the most satisfaction are wintergreen, sodium salicylate and sodium benzoate, put up in essence of pepsin and peppermint water. In the more severe cases such a prescription must be continued for months at a time, and after this is to be given once a day for an indefinite period. B. K. Rachford (Archives of Pediatrics, December, 1904).

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs :—

Transactions of the American Octological Society, Thirty-seventh Annual Meeting. Volume VIII, Part III. 1904.——Massachusetts State Pharmaceutical Association Proceedings. 1904.——Suppuration of the Nasal Accessory Sinuses. By J. A. Stucky, Lexington, Ky. 1904.——Mastoiditis in General Practice. By J. A. Stucky, Lexington, Ky. 1904.——Lithemic Nasopharyngitis due to Systemic Disturbance. By J. A. Stucky, Lexington, Ky. 1904.——Annual Address of the President——(College of Physicians of Philadelphia). By Arthur V. Meigs, Philadelphia. 1905.——On Adenoid Vegetations in the Naso-Pharyngeal Cavity. Their Pathology, Diagnosis, and Treatment. Dr. Wilhelm Meyer's Original Paper, Republished with Annotations. By Jacob E. Schadle, St. Paul, Minn. 1905.——The Value of the Physiological Principle in the Study of Neurology. By J. J. Putnam, Boston, Mass. 1904.——Notes on Some Unusual Forms of Infectious Disease of the Central Nervous System. By J. J. Putnam and G. A. Waterman, Boston, Mass. 1904.——A Helpful Agent in the Treatment of Surgical Debility. By J. S. Purdy, London, Eng. 1904.——The Training of the Surgeon. The Annual Address in Medicine, delivered at Yale University, June 27, 1904. By William Stewart Halsted, Baltimore. 1904.——American Varieties of Lettuce. By W. W. Tracy, Jr., United States Department of Agriculture, Washington, D. C. 1904.——Soil Inoculation for Legumes; with Reports upon the Successful Use of Artificial Cultures by Practical Farmers. By George T. Moore, United States Department of Agriculture, Washington, D. C. 1905.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

THE NATURE AND TREATMENT OF "INSANITY."

THERE has been enough discussion of "insanity" to lead me to adopt the conclusion, reached by a few writers, that it is absolutely indefinable. What it is, and what is necessary to constitute it, is a matter of individual opinion. Even with practical agreement as to the observation of the facts, honest alienists differ as to what shall be called "insanity." Should we then be surprised that in the concepts of the law, and among the laity, the utmost confusion and haziness should prevail on all sides?

Dr. Richard Dewey's proposition to discard the name "insanity" with all the opprobrium which attaches to it and to substitute that of "psychosis;" to include not only what is commonly known as "insanity," but also the so-called "borderland" conditions and many conditions presenting mental symptoms not commonly denominated as "insanity," has much to commend it. The term "psychosis" is more inclusive and less definite than that of "insanity," facts which, in the present state of our knowledge and ignorance, argue for its use.

That certain morbid mental phenomena should be held to constitute "insanity," while others perhaps differing only in degree, should not (although both groups depend upon the same underlying mechanism); that certain morbid mental phenomena should be called "insanity" if prolonged and something else is of short duration, constitute artificial distinctions which are unscientific. Moreover, the distinction or differentiation is impossible, since the facts are differently observed, measured, and interpreted. The whole study of abnormal mental manifestations has been greatly hindered by the attempt; and indeed, by the supposed necessity of stating specifically which, and how many of them, shall constitute "insanity," and which, and how many, may exist without constituting "insanity." Thus the unity, or the essential sameness, of the underlying mechanism in all morbid mental phenomena has been obscured and often lost sight of entirely. "Insanity" has for countless ages been a mythical entity—a fetish.

Therefore, because it never has been and never can be defined and isolated; because attempts to do so hinder the study of morbid psychology from a broad point of view, the attempts to erect among the sum total of morbid mental phenomena an impossible artificial entity—"insanity"—should be abandoned.

But what about the legal requirements? Let the law take care of itself. Let the physician on the witness stand state the qualities, degrees, and kinds of abnormal mental phenomena observed by him, and if possible state their significance and let the Court determine whether they constitute unsoundness of mind, irresponsibility, or a sufficient excuse for crime.

But the term "insanity" has been used too long to be abolished at a suggestion, or a hundred suggestions. Let it then for the present be written between quotation marks to denote its uncertain definition and a desire that it shall pass, and with the intention of conveying only the idea of severe and prolonged departures from mental health, and with the acknowledgment that the term is irretrievably vague.

With the acceptance of these ideas one need not debate as to whether the morbid mental phenomena accompanying neurasthenia, alcoholism, hysteria, etc., constitute "insanity" or not. The broader term psychosis will satisfactorily cover all.

How shall "insanity" be treated? It is one group of many observable phenomena of physical disease, and it is never the sole expression of disease. Physical signs and symptoms always accompany it. To emphasize the great unity of disease and to rightly estimate its expressions, patients who exhibit "insanity" among their symptoms should, so far as possible, be treated in general hospitals; and these should be properly equipped to handle them. Thus much of the opprobrium and mystery of "insanity" would be removed. Thus practical expression would be given to the view that "insanity" was only one—even though the dominant one—expression of physical disease, and not a mystery or an entity, or a possession apart from other expressions of disease, as it has been regarded for countless centuries. Obviously only acute "insanities" should be so treated. Chronic invalids of any kind have no place in the general hospital. Psycopathic hospitals conducted apart from general hospitals cannot accomplish the same good; for, to the laity, they will inevitably be known as "insane asylums."

St. Francis', a general hospital of Pittsburg, with its four well-equipped wards for patients who exhibit departures from normal mental health, has for years exemplified the ideas above advocated. I know of no similar hospital in this country. The new city hospital of Nuremberg has provided a small number of beds for "insane" patients; and in a few other general hospitals in Europe similar provision is made.

THEODORE DILLER,*
Pittsburg.

ROENTGEN THERAPY: ITS SPHERE OF APPLICABILITY.

THE Roentgen rays have demonstrated a practical power to alter cells of low vitality and stimulate regenerative changes. They have proved themselves capable of effecting the cure of many chronic skin lesions in a remarkably short time, that have baffled other therapeutic measures. They have shown an analgesic power in severe neuralgias and rheumatisms, which in most cases is combined with alterative effects that result in permanent relief and restoration of function. They have demonstrated an inhibitory action over the growth of malignant cells that has amounted to a cure in epitheliomas and superficial growths, while for want of time to prove their permanency, the remarkable effects seen in graver lesions can be termed as yet only an inhibitory action. In tubercular manifestations, especially in lupus and tubercular adenitis, they have been found the most effective therapeutic agent known. Besides all these effects they have proved equally efficient in their action upon non-malignant growths.

---

* Neurologist to the Allegheny General Hospital.

It is because their action is stimulant and alterative that they have found so wide a field of application. Whenever they can be applied to stimulate altered metabolism or act upon pathologic cells of low vitality, they have proved effective agents in restoring normal conditions.

This demonstrated power to produce beneficial effects, in conditions that have previously been hopeless or have become chronic, makes it essential that every conscientious practitioner should appreciate the conditions in which they may be relied upon to aid in treatment, either primarily or as supplementary to operation or other methods of treatment.

For convenience the classes of cases may be divided into non-malignant skin lesions, including tubercular and glandular lesions, neuralgias, neurites, and rheumatic conditions and superficial and deep malignant growths.

The varied and apparently antagonistic effects which can be produced by the proper dosage of this therapeutic agent finds no better illustration than in its application to *hursitis* and *alopecia areata.* Here the alterative action as well as the stimulative must be taken into consideration. The highly specialized hair follicle can be destroyed without injury to the surrounding normal structures and the hair removed, or the dose can be regulated to produce only a stimulant action and thus restore the normal vitality. According to the dose given the hair is removed permanently, or, if the follicle is not totally destroyed, the hair can be made to grow again. The depilatory action of this agent is very valuable in the treatment of other dermic lesions, as *sycosis* in which the disease has invaded the hair follicles and all hair must be removed before a cure can be effected. These lesions yield rapidly to treatment, and the cure can be permanent without the total destruction of the hair. This condition will serve to illustrate its application to all lesions where the hair follicles are involved.

Severe *acne,* particularly the pustular type, is especially amenable to treatment by this method. The pustules break and heal with less scar formation than after curetting, while chronic inveterate cases yield rapidly to this stimulant and alterative.

The action of Roentgen rays upon skin lesions is apparently more thorough than that of ointments and lotions; it seems to reach deeper and produce alterations and destructions of the deep-lying pathologic tissues. This is illustrated forcibly in its action upon *eczema and psoriasis.* In eczema, whether of the dry or moist form, and in cases of even five and twelve years' standing, the treatment has proved remarkably efficient. The same is true of psoriasis, of which a severe case yielded permanent results, though the treatment had to be vigorous and extended over a number of months. In these cases of local manifestation of what is apparently a disease due to systemic causes, there can of course be no guarantee against the recurrence of the disease in other portions of the body.

The remarkable absence of scar tissue in the results following this treatment, even where there has been loss of substance, render it particularly valuable from the cosmetic standpoint. This effect in removing scar tissue is demonstrated more thoroughly in its effect upon *keloids* which yield readily to this agent.

In speaking of tubercular manifestations, *lupus* or tubercular ulceration claims attention because of the great difficulty in producing a cure by other known means, and the almost specific action which the Roentgen ray has shown. No tubercular skin lesion has failed to react to appropriate dosage in my hands, and this is true of everyone who employs this agent judiciously. Many other tubercular lesions have shown a similar readiness to yield to this therapy. Tubercular adenitis and simple adenitis of the cervical lymphatics, even when due to, and following, exanthemata, yield rapidly to this agent, without the necessity for fixation dressings or even simple incision if they are taken early before suppuration has ensued. The great advantages of early treatment in these conditions, where such excellent results can be obtained without disfiguring the patient, are very manifest. The treatment can be undertaken earlier and carried out much more thoroughly than when fixation collars are to be worn or operation consented to. Other tubercular lesions as synovitis, tenosynovitis, orchitis, and arthrites of small joints have been very beneficially influenced, but the cures cannot be attributed wholly to this agent, for with it, as in all other conditions, the patient demands the continuous care of the family physician to keep the physical condition and the recuperative power as high as possible.

One of the most remarkable effects which this agent has produced is in the relief of pain. It was first noted in cases of malignant disease, where its palliative action was most valuable. The observation of this action led the author to employ it in a case of *acute neuralgia* following influenza. Five short treatments gave relief immediately and resulted in a permanent cure. Encouraged by this result it was applied in *chronic facial neuralgia* of six months' duration, in a patient who had been the subject of neuralgia for twelve years, with relief and finally a cure that has lasted two years. It has also relieved a case of *migraine* in which frequently recurring attacks had persisted for twelve years, so that the patient has not had an attack for fourteen months.

A case of severe *tic douloreux,* in which an acute attack had resisted the best treatment for six weeks, was relieved almost immediately of pain and finally cured, and has remained well for the past eight months. Where, however, a *true neuritis,* with spots of local anæsthesia, has developed, nothing can be promised but temporary relief from pain, while the chances of complete restoration and recovery depend largely on the chronicity and severity of the lesion.

As might be expected the pain of *rheumatism* yields to the analgesic influence of this agent, while the pathologic inflammatory process is beneficially influenced in most cases by its alterative action. The results in *chronic rheumatoid arthritis* are surprising, but are comparable to those it produces in other chronic conditions. The results in some cases of *arthritis deformans* are truly remarkable.

This brief review of the non-malignant conditions does not include the purely medicinal cases in which very valuable results have been produced, as in Addison's disease, tubercular peritonitis, and the various forms of goiter, as too few cases have been reported upon which to base any valuable conclusions.

In dealing with the application of this remedy to malignant disease, other factors than its demonstrable effects must be taken into consideration, because of the known tendency of malignant disease to recur, and the difficulties that lie in the way of establishing the permanency of a cure.

Up to the present time we can only say that an inhibitory action upon the growth and development of malignant disease has been demonstrated, as it is too early to prove that any case has been cured. Under these conditions it is absolutely essential to scientific judgment that in all cases, where the patient's life would otherwise be jeopardized, and where operation is permissible, operation must precede Roentgen treatment. The patient must be given all the possible chances of the best known methods. It is, however, equally certain that the demonstrated power of the Roentgen rays over the growth of malignant cells makes it equally essential that every patient be given Roentgen treatment as well, or his chances for recovery will be lessened.

Superficial lesions, such as *epitheliomas* and *rodent ulcers,* that do not necessarily threaten the life of the patient can be treated with advantage primarily by the Roentgen method, because they can be effectively destroyed, and with a resulting scar that is not appreciable or disfiguring. Scirrhus of the breast is a condition in which surgical teaching, the result of pathologic findings, seems to contraindicate operative intervention. This condition yields rapidly to Roentgen treatment.

The rapid recurrences which generally follow operations upon *sarcomata* and their distribution into regions remote from the original lesion are facts which, combined with the efficiency noted in the Roentgen treatment, especially where there has been no operative interference, would seem to indicate a tentative course of Roentgen treatment in these cases, to be followed by operation if acute conditions demand it.

The only other exception to early radical surgical removal of the malignant disease is in recurrences or massive growths that arise too late for any treatment. Here the removal of the larger masses facilitates the effective Roentgen treatment, and renders, even in hopeless cases, its palliative action of the greatest benefit.

The demonstrated effective inhibitory and destructive influence of this agent over malignant disease makes it essential as a supplement to every operation for the radical relief from malignant disease. It then can attack any remaining foci of malignant disease that have escaped the operator, while they are devitalized as the result of the operative trauma and before they have had time to engraft themselves upon the tissue of the patient. While the mortality of malignant disease remains so high after operation, it is essential that every means at command be employed in combating it. An agent which has demonstrated such power over malignant cellular activity cannot be neglected without seriously impairing the patient's chances. The post-operative treatment in no way interferes with the patient's recovery; in fact, hastens it. Treatment can be given effectively through the dressings, and if no irritating antiseptic has been employed it facilitates and hastens the healing. As a palliative in hopelessly inoperable cases there is nothing which is more efficient than the Roentgen rays in relieving the patient's suffering and rendering life tolerable; while many remarkable cases have demonstrated that it is impossible to say how much such treatment may lengthen life.

It must be clearly understood that these results are attainable, even in superficial benign lesions, only when the proper dose is given in proper time, quality and quantity to effect a lesion to which its quality is particularly adapted. Quinine might as well be given to cure syphilis, or mercury to cure malaria, as to use the wrong quality of Roentgen discharge in treating any lesion. The quality and quantity can only be produced with the development of special technique, and the acquirement of clinical experience in adapting them to the lesion in hand.

This agent is, like all others, incapable of producing results unless properly employed, and efficiency is due as much to the way in which it is employed as to the agent.

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[Note by the Associate Editor.—It is idle to expect legitimate results with this highly complex and as yet seemingly mysterious agent, unless carefully administered by an expert, fully equipped in medicine, pathology, physics, and the special technique of the rays. No blame can be fairly placed for negative or calamitous findings upon the Roentgen rays when applied by other than a master. The practice cannot be too strongly condemned of delegating its employment to electricians, nurses, orderlies, or resident physicians, or any one without adequate experience.—J. M. T.]

ELEMENTS OF SUCCESS IN THE TREATMENT OF LARYNGEAL TUBERCULOSIS.

Years of daily work with the laryngeal type of tuberculosis has impressed upon me the importance of several facts which seem clear enough and sufficiently well substantiated to permit of their enunciation as general principles in the treatment of this serious and distressing complication of pulmonary tuberculosis, for as such it is usually presented to the practitioner and specialist. In the beginning I approached its treatment with the customary scepticism as to results, and it required a number of successes to disabuse my mind of faithlessness and convince me that there is hope for at least a fair proportion of these sadly afflicted persons. It is only proper to say, however, that in my work I have always had the assistance of excellent climatic conditions, a factor, the relative importance of which is difficult of correct estimation, though I am personally inclined to give it rather a high place. At the outset it must be remembered that in a failing patient nothing but more or less complete relief of symptoms can be expected from laryngeal treatment. I have yet to see a progressive pulmonary and general failure accompanied by improvement in the local lesion, though it is quite possible to hold the disease in check by means of careful and persistent treatment, a course that is always justifiable on account of the suffering which attends laryngeal tuberculosis, especially in advanced stages, and the relief which follows thorough cleansing of the diseased areas.

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* **President of the Roentgen Ray Society.**

The factors, the careful utilization of which will, in my opinion, give the highest success, are five in number, viz.: avoidance of continued irritation, avoidance of operative procedures, constancy in treatment, employment of a highly diffusible, penetrating, bactericidal agent, and the use of mopping instead of spraying.

The continued use of any agent sufficiently irritative to cause distress, coughing, or local reaction, which is more than transitory will be productive of more harm than good in the long run. Nature's efforts to limit the spread of a tuberculous lesion should not be interfered with or destroyed by operative procedures which at best cannot certainly remove all of the infectious material or diseased area. The only permissible exception to this rule is when fungous or papillomatous overgrowths prevent free breathing, and when the growth is of itself productive of sufficient irritation to cause excessive coughing, with consequent loss of rest and sleep. Under such conditions the thorough use of the electro-cautery, or preferably, the curette, is, of course, the choice of the least of evils.

As for every day treatment nothing is to be gained by making a distinction between ulcerative and infiltration cases. The same general principles apply equally to both, and in both thorough cleanliness is the way that leads to success. Infiltration of the larynx corresponds to incipiency in pulmonary tuberculsois, and is curable in about the same proportion of cases. Ulceration usually occurs in the advanced pulmonary types, and is also curable in corresponding proportion. Under correct treatment I am not able to see that a laryngeal lesion alters materially the general curability of the type in which it occurs.

Constancy and perseverance are much neglected factors in treatment as commonly practiced, and yet, are absolutely essential to success. Tuberculosis of the larynx is a disease which is always working overtime, and to defeat it the physician must work overtime as well. It was formerly my custom to treat these cases once daily, but improvement in results at once followed the practice of twice daily treatment, and if it were only practicable, I am not sure I would not treat them four times daily. The difficulty of accomplishing this is practically insuperable outside of institutions where a physician is always at hand, and yet in no other way can the highest success be attained. Further, by having a patient who is attempting to take the "rest cure" make daily or twice daily visits to a physician's office, which will usually be some distance away, would probably defeat the essentials of general treatment. But, however, I am very sure that the usual custom of treating such cases twice or thrice weekly is almost worse than useless. As for self-administered laryngeal treatment, there is not one patient in fifty who may be taught to spray the larynx efficiently, and at best the spray is a "weak sister" in treatment.

The use of a proper agent, following mechanical cleansing with simple alkaline solutions, is, of course, a matter of prime importance. The ideal agent for this purpose must be actively bactericidal and non-irritating in efficient concentration. It must be very penetrating, and for this purpose we have two substances which in character approach the ideal, namely: formaldehyde and trichloride of iodine. For routine work the first is desirable, for in proper strength solutions it may be used almost indefinitely without injury to delicate structures. Begin with two drops of a forty volume solution to one ounce of water, and be guided in increasing its strength by the burning sensation caused upon its application. This should not be more than a distinctly warm feeling which is momentary in duration. It is rarely practicable or desirable to exceed ten drops to the ounce. Formaldehyde used in this manner will not cause coughing or irritation. As an alternate the trichloride of iodine is second only to formaldehyde in value, the proper strength being from one-half to two grains to the ounce of distilled water.

The only efficient method of making applications to the larynx, and very easy and simple moreover, is by means of cotton and a laryngeal applicator. The instrument should be armed with teeth which will firmly grip the cotton and prevent its becoming detached in the larynx. Even after protracted training of the patient in the use of the long tipped laryngeal atomizer, spraying is an inefficient method of applying medicinal agents to the larynx, and further, a forcible spray, such as is required to penetrate the parts, may do a vast deal of harm to the mucous membrane, causing abrasions which form *"locus minoris resistentiæ"* for further infection. Any physician can make efficient applications to the larynx if he only thinks he can. The services of a specialist or of a highly developed technique are unnecessary, though, of course, desirable. The lesion should be thoroughly mopped from two to five times at a sitting, according to the condition of the patient. The laryngeal mirror must, of course, be employed during the introduction of the cotton-armed applicator. With patience and admonitions to breathe naturally the subject may be trained in a week or so to tolerate the presence of the applicator in the larynx, without coughing, breathing naturally all the time, sometimes for an entire minute. A good contraction of the larynx upon the cotton is, however, not desirable, as it thoroughly squeezes the agent out of the cotton and over the lesion, and may be induced by a sudden movement of the applicator. Some patients learn by long practice to use the laryngeal hand atomizer sufficiently well to afford relief of the annoying dryness which often accompanies tuberculosis in this region, and nothing can be lost by providing patients with a hand atomizer charged with formalin solution. The possible pressure is never sufficient to cause injury.

By careful attention to the principles laid down thus briefly, I feel sure that a goodly proportion of these cases may be cured, and others more seriously effected efficiently relieved, and in many instances life indefinitely prolonged.

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NEURASTHENIA PLUS CHRONIC INTOXICATIONS.

Few or no problems confront the physician comparable in complexity to instances of neurasthenia, to which are superadded the effects of pronounced chronic intoxications. These occur more commonly among men for obvious reasons. Neurasthenia must be regarded as a clinical entity, although our knowledge of the precise underlying conditions leaves much in obscurity. We recognize two palpable varieties, by no means distinctly separable, (1) the so-called inherited form, depending upon developmental defects chiefly in the nervous system or ductless glands, and (2) the acquired forms, the product of perversions of function due to overstrain, hypertensions, worries, and the like. The differentiation between these is not always possible, but usually to be achieved by the man of educated instinct. Treatment, to be successful, should then differ somewhat widely. Prognosis is even more difficult, but is vitally important.

Where the fundamental fault is wholly, or mainly, due to deviations in original functional competence, the problem is to measure possible progress by the standard of the weakest organ; to conserve the action of this one and supplement it by bringing the others in line, and maintaining an even plane of advance toward the normal for that individual. When the basis of disability is exhaustion in the central

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nervous system, and where this has progressed to a point demanding rest, then this rest must be absolute of mind and body for a time, otherwise the nutritive forces cannot be rehabilitated. The most significant data in the differentiation are psychical. Experience, a wide familiarity with analogous states, can alone fit one to correctly estimate and control the derangements.

The subject under consideration is the complex syndrome presented by chronic intoxication superadded to the phenomena of exhaustion.

Modern competitions in industrial problems have produced an increasing group of persons, chiefly men, who, after intense application to business, meet with more or less success. This success provides them with means for gratifying tastes, perhaps over-liberally, which too often tend more toward food and drink and late hours and the mysteries of darkness rather than for wholesome outings and rational sports. The man usually claims that he has little or no time for outdoor sports or for daylight leisure, but admits that relaxation is essential for rest and repair; hence he chooses to adopt for himself the exhilaration of stimulating dishes and drinks, garish amusements, etc., trusting his originally vigorous powers of recuperation to place him where he wishes to be by the morning business hours. The exigencies of business to-day may be similar to those of yesterday, seldom less engrossing; but often suddenly a crisis confronts a jaded organism, of which there is then demanded the largest concentration of vital forces. No wonder catastrophies are frequent, partly physical, partly mental, and often financial. The same man would scorn the athlete who, approaching the crucial contest, would fail to pay some, indeed much, deference to the conservation of forces imperatively needed in the accomplishment of desirable results. Yet he will thus jeopardize not only fortune, fame, health, character, but life, day after day. Others do so, he tells himself; some survive; hence this creature, claiming to be of a high intelligence, will act like a madman or fool for so long as his fund of vitality lasts. This picture is only too common. Let us enumerate the features in the inevitable breakdown.

To the factors of nerve exhaustion, including the whole train of contributory phenomena, nutritive, circulatory, eliminative, etc., the logical sequences of prolonged hypertension, loss of sleep, omission of economic relaxation, enforced perversions of function, muscular, pulmonary, etc., are added a series of definite intoxications.

It is an axiom that a well-balanced organism can endure much insult from malhygiene, poisons of various sorts and degrees, provided there shall be given opportunities for repair; remissions in morbid activities and strained attention, wherein the vital forces may regain balance.

It is also admitted that a healthy organism can become gradually inured to increasing amounts of irritant poisons with apparently small harm. It is essential, however, to the success of this acquired immunity to assume an original and well-sustained vigor of central nervous forces and also organic integrity. If, however, a man of, it may be, exceptional inherent powers shall place himself for an indefinite period, more or less constantly, under not only (first) the strains of competitive work, and (second) irrational forms of so-called relaxation, the concomitant of late hours, etc., he must expect to suffer, and that seriously, ere long. But if also he adds to these the destructive effects of (third) the overstimulation of rich tempting foods, and (fourth) strong wines, if even only at dinner, as well as possible cocktails, highballs, "bracers," at odd times, and (fifth) tobacco often in far greater excess than he realizes, he is carrying a heavy and dangerous burden.

If also there be (sixth) a heritage of gout, which is thus encouraged, and is often insidious, it may become sudden or explosive, menacing not only by pains, but striking at organic integrity; also (seventh) possibly a latent tuberculosis, or (eighth) syphilis, no matter how thoroughly treated and supposedly cured, there is a *status quo* at which a prudent man may well stand aghast. Yet it is by no means rare to have this problem suddenly offered us, either in the incipient stages of some of its phenomena, or late, after various kinds of makeshift solutions have been fruitlessly attempted. The purpose of this article is merely suggestive; to outline the picture, not to discuss it further than to offer a few hints as to its solution.

Clearly the condition presented is one of vital bankruptcy, and must be met with the same preparedness, intelligent candor, a willingness to adopt radical revision of methods, which this same man would accept if it were a business proposition.

It is true that often one so circumstanced may not suffer markedly from pain, discomforts, obvious organic damage, or any other obtrusive subjective evidences of health destruction.

These masterful, successful men are usually well endowed with self-satisfaction and large confidence in their own wisdom. They usually relate unsatisfactory experiences with physicians who were often far from blameless, and these counsellors they over-liberally denounce. They pride themselves on having become medical nihilists, stating emphatically that the profession has forfeited their confidence, and cite pretty cogent reasons for the negative belief that is within them. In short, not only are they physical invalids, they are mentally in gravest peril. The worst danger is from vitiated psychic attitudes, which leads them to vent childish denunciation on all constituted or family or medical authority. The only ultimate salvation is for such men to seek humbly for, and be guided by, consistent salutary advice, one item of which is capable of being fitted into and supplementing the other.

The complex problems entering into chronic gouty states alone (varying as they do with temperamental peculiarities), are enough to puzzle even those who make this disorder a special study. The aggravations caused by the common poisons, also frequently encountered, of errors in diet, in the use of alcohol and tobacco, give cause enough for anxiety. These sketched upon a background of insufficient sleep and rest of mind and body, especially when business responsibilities cannot be immediately or completely omitted, make repair measures difficult. When, as sometimes happens, there is a history of lues, the foundations of health are thus doubly imperiled.

It has often transpired in my experience to meet the last combination and to find that then antiluetic remedies cannot be borne; iodides and mercurials irritate violently.

The fundamental factor in the whole process, however, is plainly inhibition of the vital process in the great elaborating glands, the liver, the pancreas, etc., through debility of the adrenal system, which, as unquestionably demonstrated by Sajous ("unquestionably" for those who have conscientiously studied his works), governs all oxidation processes, *i.e.*, general nutrition.

The complexity of the pathologic problem is here a matter of common reproach from patient to physician, and on the part of the profession with equal candor among themselves.

The essential pathogeny of gout is still a matter in much dispute, though research on the subject is monumental. Our most practical knowledge is gained from empirical findings. The chronic forms have certain points in common with the phenomenon of other destructive processes, in defective oxygen distribution and especially impairment of digestive elaboration.

The characteristic changes in syphilis are chiefly displayed in the blood vessels. In both there is marked impairment of the central control mechanism, especially in nutrition of the vasomotor centers and peripheral vessels. The liver, the largest poison filter, grows habitually inefficient. The blood vessels of this organ become chronically dilated. Where alcohol has been used to excess, paralytic vasodilation in this territory has been induced along with connective tissue hyperplasia; in short, although there may be fair motor capabilities, it is plainly important to conserve all the forces for a time with the same insistency required in a febrile process, like typhoid fever. Best results follow absolute rest in bed with the simplest feeding, attention to the vasomotor tone, and adrenal efficiency until enough force is husbanded to follow specific indications.

It has been my experience to find many sufferers from this combination who have spent months, even years, undergoing spa treatment or various forms of partial rest along with rational measures, who yet continued to lose strength steadily. After a period of some weeks or months of absolute rest in bed, with the full rest measures enjoined by Weir Mitchell, finally it becomes possible to specialize further treatment according to constitutional or specific indications.

It is no small thing to interpret our duty when a man compassed by these perils appeals to us to put him in condition to do his uttermost in the next two or three months, wherein he must fight a great fight involving large moneys, or reputation, or maybe character. If we push his hard-beset machinery by tonics and forcing measures, howsoever wisely, and the little rift in the lute suddenly widens and gives way, we become, without a doubt, *particeps criminis*. If we decline to thus aid and abet a possible felony, our client will naturally rate us as unreliable, from his point of view. If we reason with him, his mental vision is so obscured by the obsession of greed, aggravated by toxæmias, impaired cerebral circulation and nutrition, that he cannot, or will not, appreciate our ethical position—our disinterested conservatism.

Though it is plain that mental alienation of this sort is ethically just as much subject to the jurisdiction of the law, nevertheless statutory law does not give us control of the individual till he has committed some overt act.

The temptation is "to do the best we can," but the best for keeping the peace and parallelizing the lines of least resistance, is not the best for the erring patient. All we can do is to acquit ourselves honestly within our sphere of permitted action, and to hope the law will grant us larger powers to control sick minds, as lawmakers grow in wisdom and statutes enlarge.

In the treatment for these cases certain principles obtain in all. The man's affairs must be set in order as swiftly as possible, taking from him the burden of responsibility with all reasonable despatch. The killing factor is continuance of fixed attention, of latent stimulation. Simplicity of living is imperative. After a period of absolute rest of mind and body (and isolation is essential, entire or in part), a return to the primitive forms of living must be enforced. When organic activities are fairly restored, the ideal life is in the deep woods; struggles with the forces of primeval nature in securing and maintaining the elemental needs of food, bed, shelter, and sane and simple amusements. This can best be secured in a remote camp, tenting rather than under roof. Later, most satisfactory results come from "the long trail" afoot, in canoe or pony back, and continued for weeks or months. Thus in perfection is to be had the training whereby manliness, self-restraint, sobriety, and wisdom grow insensibly. Instinctive powers, long dormant, slowly but steadily come to full fruition by deliberate reflection when alone. Thus character, mental clarity, moral wholesomeness, and physical efficiency are again achieved; or if never fully learned or earned, through the exercise of self-obligation from necessity, if not from choice, they will as surely grow as there are seeds in the organism. If no seeds are there, then no crops; given seeds of character, of strength, the soil needs careful tending, adequate time, suitable pruning, and a citizen can then be new made or constructed *ab initio* in proportion to the inherent possibilities. Of course, we may be forced to use substitutes, by adopting a second, third, or tenth choice. Other plans of isolation and primitive activities may suffice. We usually are hampered by this necessity, but if unsuccesful the fault is then not ours; the defeat comes from enemies within the walls.

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Cyclopædia of Current Literature.

ACID INTOXICATION.

At present the knowledge of the conditions accountable for the symptoms present, and for the occurrence of acetone and diacetic in the urine, is yet in its infancy. It has been proved experimentally that it is not due to acetone circulating in the blood, as the same condition has been produced experimentally by other substances. The amount of acetone found in the urine is no index as to the severity of the affection. Whether the occurrence of the symptoms is due to a toxic substance acting on psychomotor centers, or due to pressure on these centers, has not been proven. This is only offered as a suggestion as to the causation. That there is some toxæmia occurring is doubtless true; whether it is due to the presence of volatile fatty acids, to the rapid destruction of proteid matter, or to the rapid elimination of the alkalies, is impossible to say at the present time. James A. Kelly (Annals of Surgery, February, 1905).

ADRENALIN, ACTION OF.

The writer, working in the Therapeutic Institute of the University of Liége, has made an elaborate experimental study of the action of adrenalin, of which the following are the conclusions: The acceleration of the pulse which succeeds the initial retardation after injection of adrenalin in an animal is due to excitation of all the accelerator apparatus of the heart, as much central as peripheral. The participation of the central apparatus is not indispensable for this acceleration. The cerebral vessels, like all other vessels of the body, contract under the influence of adrenalin, and this lasts as long as the adrenalin is in action. The increase in the volume of the brain following an injection of adrenalin is probably due to a venous stasis depending on slowing of the pulse and a momentary arrest of respiration. The vasomotor center takes part in the production of high blood pressure by adrenalin only secondarily, and this from the cerebral anæmia provoked by the constriction of the cerebral vessels. The slowing of the pulse observed to follow the injection of adrenalin in an animal whose vagi are intact appears to be due to two factors—a direct action of the cardio-inhibitory center, and a secondary action produced by the irritation of this center by the cerebral anæmia set up by the constriction of the cerebral vessels. Adrenalin, without doubt, acts on the intracardiac terminations of the vagus, producing their excitation, which is demonstrated by the slowing of the heart which follows its injection into an animal whose vagi are divided. Adrenalin acts directly on the respiratory center, producing its inhibition. The dyspnœa which follows the apnœa produced by the injection of large doses appears to be rather due to the secondary excitation of the respiratory center by the cerebral anæmia. The fact that adrenalin may be destroyed in the organism by oxidation is far from being demonstrated. Neujean (Arch. Internat. de Pharmacodynamie et de Thérapie, vol. xiii, fascic. 1 and 2, p. 45, 1904; from British Medical Journal, January 28, 1905).

ADRENALIN IN SURGERY.

The author reviews the history of adrenalin and extols its advantages for the surgeon. Combined with cocaine it insures anæsthesia with very much smaller doses, while it prolongs the action of the anæsthetic and reduces its toxicity. Subdural injection of cocaine is fatal for the rat in a dose of .018 gram, while addition of adrenalin raises the lethal limit to .11 gram. Bier has announced that the addition of adrenalin robs spinal cocainization of all danger, but some fatalities have been reported from this technique. In one obstetric case Bier's directions were closely followed, but the patient succumbed. König has frequently found adrenalin a great help in plastic operations on the urethra, to prevent the annoying bleeding from the bulb. Analgesia of the mucous membranes is readily attained in five minutes by dabbing the part with a 5 per cent. solution of cocaine or, better, eucaine, to which a few drops of a 1 to 1000 adrenalin have been added. To anæsthetize the bladder 1 cubic centimeter of suprarenin is added to a 1 or 2 per cent. solution of cocaine, analgesia being complete in about fifteen minutes. The fluid must be withdrawn afterward. In operating on the skin or subjacent tissue, Schleich's infiltration method can be used, adding 10 drops of adrenalin to 50 cubic centimeters of the fluid. A still better technique is to make a circle of injections of the fluid around the field of operation. This requires a little stronger concentration, about .05 to .1 per cent. solution of cocaine or eucaine, with from 5 to 10 drops of adrenalin to the 50 cubic centimeters. A circle of blisters is made around the field, at some little distance from it, and the canula is then inserted in the subcutis and the surrounding tissue infiltrated, thus enclosing the field in a complete ring. By this technique it is possible to resect the ribs without pain, infiltrating the subcutaneous cellular tissue and the musculature down to the pleura, in the interspace just above and below. A longer interval is required, however, when such extensive excision is contemplated. The larger, superficial nerves can be deadened in ten minutes by injecting across their course a few cubic centimeters of a 2 per cent. cocaine-adrenalin solution. There is danger of later necrosis of the tissues if strong concentrations of adrenalin are used. Gangrenous phlegmons have been known to occur after injection of a few drops of a 1 to 5000 solution. After-hæmorrhage is also possible, as its effect subsides, if in such strength that the lumen of large vessels is closed. Both of these evils are avoided when the circulation in the capillaries alone is interrupted. For this a dilution under 1 to 10,000 is sufficient. Hildebrandt (Berliner klinische Wochenschrift, January 2, 1905).

APPENDICITIS, PERILOUS CALMS OF.

Defervescence of symptoms and apparent better condition of a patient do not always mean recovery, but may be the forerunner of a more dangerous condition. There being no specific for the disease, no matter what treatment is used, the one who procrastinates should shoulder the responsibility for the death. When a clear diagnosis is made, but one treatment should be advised, that of operation as soon as possible under the conditions, or the golden opportunity may be forever gone. The physician who does not explain the great dangers of delay and the small comparative danger of operation is doing his patient a serious injustice, which often leads to fatal results. Operation at the proper time usually greatly shortens convalescence, and eliminates all danger from this cause hereafter. Procrastination is the greatest cause of surgical deaths, operation often being performed as a last resort, when but little hope of recovery exists. R. W. Hardon (Boston Medical and Surgical Journal, February 16, 1905).

CEREBRAL HÆMORRHAGE.

The relation between various atmospheric conditions and the occurrence of cerebral hæmorrhage has been studied by the author. He concludes that there seems to be a slight tendency toward the occurrence of cerebral hæmorrhage on days of high atmospheric pressure and also on days of rising pressure, the former being probably the important factor. There is a very marked tendency on days of low wind pressure, and the combination of a low wind pressure with a high barometric pressure is the condition under which the largest number of cases took place. Apart from season, temperature in itself has not been shown to exert any influence, though a small excess of cases has been noted on days with a rising thermometer, and also with a combined rise of atmospheric pressure and temperature. J. W. Russell (Lancet, January 28, 1905).

CHLOROFORM, ELIMINATION OF, BY VOMITING.

It is the author's practice to promote vomiting after most operations requiring chloroform narcosis. He is convinced that this is an important means of elimination of the chloroform. He has the subjects drink copiously of chamomile tea, and observes that the discomfort following the narcosis is much more fleeting when the vomiting is free and unchecked. In 22 cases in which the chloroform narcosis lasted from twenty to sixty minutes, the test for chloroform was always positive. He filters the vomitus and adds a drop of aniline and a little caustic soda, then heats to the boiling point. In the presence of chloroform there is an unmistakable, pungent odor of isonitrit. This test was derived by Bunge of Basle, and is very sensitive and accurate. The vomitus must be kept in an air-tight receptacle until the test is applied to prevent evaporation of the chloroform. Gelpke (Correspondenz-Blatt. f. Schweizer Aerzte, vol. xxxiv, No. 13, 1904).

CONVULSIONS IN NEPHRECTOMIZED RABBITS.

The animals at first become more excitable, then timid and fretful; these phenomena are soon followed by convulsions which are regular, but not general; they begin in the muscles of the neck. In the course of a few minutes the head is drawn forward. In a few cases the attacks began with clonic twitchings of the muscles. The convulsions finally spread to other muscle groups. So soon as the extremities became involved, paralysis appeared in the intervals of the convulsions. The injection of kreatin into the carotid produced paroxysms similar to those described. Since the author obtained results similar to those attained by Zuntz, that is, that it takes less kreatin to produce convulsions in pregnant animals than in non-pregnant ones, he set up a hypothesis that the nervous symptom possesses a specific sensitiveness to certain agents. Blumreich (Centralblatt fur Gynäkologie, No. 49, 1904; from American Medicine, February 4, 1905).

DEFENSIVE POWERS OF THE BODY IN DISEASE.

This subject may be considered in two parts, the first dealing with the histological changes visible with the microscope, the second with the subtle chemical substances in the cells and fluids of the body which aid in protecting the body and in curing disease. The chief cellular activities are included in the term phagocytosis. This includes the ingestion and digestion of bacteria within the cells. Not all bacteria which are ingested by the leucocytes are digested; they may even flourish and multiply within the cells. Bacteria which produce a local emigration of the neutrophile leucocytes will cause a neutrophile leucocytosis if the infection be sufficiently extensive; the converse of this statement is also true. With normally reacting tissues the leucocytosis increases with the extent of the infection. In infections in which leucocytosis is the rule the absence or diminution of such without improvement of the symptoms indicates severe toxæmia with interference with the supply of the defensive cells, or an inherent want of reactive power. With regard to the eosinophiles, whether the cells produced in excess act as direct phagocytes or indirectly produce some of the defensive substances, they evidently play an important part in the defense of the body. An abundant supply of leucocytes, free movement of the same, and a free flow of lymph favor local defense. The most important means of increasing phagocytic activity is supplied by active immunization or vaccination in the general sense. The defensive powers of the body, so far as the production of phagocytic cells is concerned, are sufficiently striking, but the antitoxic and bactericidal substances, as ultimate weapons of defense, are more remarkable still. These and other antisubstances have this common property, that they enter into chemical union with the substances on which they act, and show specific affinity in such combination. Muir (Glasgow Medical Journal, January, 1905).

DIABETES, CONTAGIOUSNESS OF.

Cases have been recorded from time to time of the coexistence of diabetes in husband and wife. Bebove, in 1889, drew the attention of the profession seriously to the subject, basing his opinion and remarks upon five personal observations of what he characterized as conjugal diabetes. Since then the subject has rarely been mentioned. Hutinet (Thése de Paris, 1904) has recently opened up the question with several personal observations and collected cases to the number of 161. Such well-known observers as Tessier, Marie, and Talamon are inclined to accept the possibility of contagion in diabetes. Hutinet suggests that the contagion, whatever its nature may be, is contained in the mouth, the saliva being a vehicle which serves to propagate the disease. It is noteworthy that transmitted diabetes differs in some of its characteristics from ordinary forms. It is less severe, more easily treated, and certainly more curable. Symptomatologically it differs in the absence of thirst and polyuria, and the glycosuria sometimes disappears spontaneously when the patient is relieved from the possible source of infection. Thus, it has been noted in conjugal diabetes that when one of the partners dies the other rapidly recovers. If the contagiousness of diabetes should become an established fact, prophylactic measures are important. The greatest care should be taken to prevent spitting, and all articles of clothing likely to have been contaminated by saliva should be disinfected. Should gingivitis appear in diabetic subjects it should be energetically treated. (British Medical Journal, February, 1905.)

DIABETES INSIPIDUS, TREATMENT OF.

After trying various drugs recommended for this malady—valerian, antipyrine, arsenic, opium, atropine, etc.—with very little effect, the writer has treated a very resistant case with subcutaneous injections of strychnine. After twelve injections the quantity of urine was diminished from 15 to 12 quarts daily; during the four following weeks it was progressively diminished to 3 $^1/_2$ to 4 quarts; its specific gravity was about 1005. The polydipsia became less marked, and the body weight increased, and the patient, who had been able to walk only for a short time, could do so for from three to five hours. Healthy slumber also returned. The author commenced the treatment by injecting 0.015 grain of strychnine nitrate daily for five days; then, after a remission of three days, 0.045 grain was administered for a week; then another three-day remission followed by a week of injections of 0.075-grain doses. During the fourth week 0.15 grain was injected. There were no ill-effects from the treatment other than pain at the site of the needle punctures. It is important to commence with small doses and to gradually increase them. The strychnine seems to act directly upon the disease, not alone upon the polyuria, but the reason for its action is difficult to explain. B. Stein (Münchener medicinische Wochenschrift, No. 36, p. 1606, 1904).

DIABETES MELLITUS, MASTOID DISEASE COMPLICATING.

Aural complications of diabetes mellitus may originate primarily in the mastoid cells. The process may be manifested by the classic mastoid symptoms without involving the tympanic cavity. This condition is peculiar to diabetes mellitus. The term "diabetic ear" should be limited to those cases in which the disease begins as a primary osteitis of the mastoid, or in which primary tympanic involvement and rapid mastoid complications seem simultaneous. While the writer believes it advisable to reduce the amount of sugar, when possible, in those cases showing an excessive glycosuria, unless the urgency of the local symptoms would demand immediate operation; however, the writer has not met any cases that terminated in what could be called post-operative coma. S. MacCuen Smith (American Medicine, February 11, 1905).

DIPHTHERIA TOXIN, ACTION OF THE LIVER ON.

The authors have circulated diphtheria toxin through the freshly isolated livers of rabbits and cats, and investigated the effects produced by innoculating into guinea-pigs material recovered from the livers. They find that during the circulation of diphtheria toxin through the liver its lethal action is greatly diminished. This diminution occurs whether the toxin be mixed with an indifferent fluid or with blood. The bile and the juice from such a liver have a slight antitoxic action, and nucleo-proteids separated from the liver juice possess this action in a marked degree. The behavior of the liver in lessening the toxic power of diphtheria toxin is regarded as similar to that which it exerts in ordinary digestion in lessening the toxic action of peptones. These experiments are held to support the view that "immunity, natural or acquired, is nothing more than an extension to the cells of the tissue generally of a power which is constantly exercised during digestion by those of the intestine and liver." Lauder Brunton and Bokenham (Journal of Pathology and Bacteriology, November, 1904).

FEEDING IN INFANCY.

The writer discusses the methods of feeding a baby deprived of breast milk. The best substitute food is prepared from cows' milk from healthy herds, the milk collected clean, modified in clean surroundings, and used fresh. The laboratory method of exact modification of milk has been called the American method. Modified milk is not a patent food, but nourishment as near as possible, such as the human breast furnishes, and capable of being modified, or changed to fit the changing needs of the infant. The proper modification can be made only by skilled persons in a proper laboratory. The cost of laboratory milk is within the reach of all who are willing to do part of the work of dividing the quart bottles of milk into separate feeding bottles. The prescriber has responsibilities in feeding a baby. The feeding of infants is an expert's work.

Three prescriptions may serve as points of departure: 1. For the newborn—to begin after the fifth or seventh day: fats, 2 per cent.; sugar, 5 per cent.; proteids, 0.5 per cent.; feeding, 10; amount in each feeding, 1 ounce; alkalinty, 5 per cent. Heated to 155° F. for twenty minutes or raw if preferred. Feed every two hours, twice at night. 2. "Low average" breast milk: Fats, 3 per cent.; sugar, 6 per cent.; proteids, 1 per cent. 3. "High average" breast milk: Fats, 4 per cent.; sugar, 7 per cent.; proteids, 2 per cent. W. P. Northrup (American Medicine, January 28, 1905).

FIBROID TUMORS AND PREGNANCY.

Prophylaxis. — Every fibroid during the child-bearing period, with few exceptions, should be attacked by surgical means.

During Pregnancy.—Safe fibroids, *i.e.*, those beyond the dilating zone of the uterus, should be carefully watched. Every complication during pregnancy depending upon the fibroid should warrant the attacking of the condition surgically, or, at least, to provoke us to the indication for emptying the uterus.

During Labor. — Again safe tumors need watching. The resultant complications must be met energetically, but gently, as they arise, *i.e.*, hæmorrhage, tardy labor. Tumors which cannot be displaced, blocking the bony passage, warrant vaginal enucleation (seldom possible), or Cæsarean section, followed by hysterectomy.

Sloughing and necrosis of a puerperal fibroid must not be mistaken for retained secundines. This doubt must be eliminated by the exploration with the clean aseptic hand. Retained secundines are always to be removed manually, and under no condition must the *curette* be employed, because of the great danger of laceration of the capsule, and consequent sepsis.

Sloughing and necrotic fibroids are always to be attacked surgically, either by enucleation or by a hysterectomy. S. Marx (American Journal of Obstetrics, February, 1905).

GONORRHŒA, ACTIVE TREATMENT OF, IN THE EARLY STAGES.

The author employs a combination of the modern irrigation methods with the still more modern germicidal treatment, believing the combination has definite advantages over either used alone. The practical detail of this method is about as follows: In cases in which treatment is begun at the first appearance of discharge immediate gravity irrigation with permanganate of potash, 1 to 6,000, as hot as can be borne comfortably, in large quantity, followed by syringe injection of 5 per cent. solution of protargol or argyrol held in for five or ten minutes. This procedure is repeated twice a day in the same way, save that at the third injection the silver solution is pushed up to 10 per cent. and held in fifteen or twenty minutes. After three days the interval is lengthened, the routine is carried out but once a day. At ten days to two weeks the process is usually apparently gone, save for some shreds, and treatment is interrupted to test results.

In case there is already a discharge, ardor, and a stiff urethra, permanganate alone is usually used until conditions improve enough to give the protargol proper access to the urethra wall. Before this it is nearly useless and may be irritant. Usually the protargol can be profitably added to the treatment at the second or third treatment. These cases are not, as a rule, fit to test as to cure before two or three weeks.

In case there is already a posterior infection, the treatment is the same, except that about every fourth treatment a posterior irrigation with permanganate is added. This is usually sufficient, and the writer has never become convinced of the utility of using silver proteids in the posterior urethra. These posterior cases last longer, and unless the outlook is encouraging, it has often seemed unwise to attempt treatment, even of the anterior process, more than once a day. In any of the cases, if a discharge recurs after ceasing treatment to test results, or in any case in which the disease is not apparently about well within three weeks, it is advantageous to substitute irrigations of silver nitrate, 1 to 8,000, running up to 1 to 2,000 or 1 to 1,500, or occasionally corrosive sublimate, 1 to 15,000 or 1 to 10,000. F. J. Cotton (Boston Medical and Surgical Journal, February 11, 1905).

GRAVES'S DISEASE, PIGMENTATION OF THE EYELIDS IN.

In Graves's disease there is a uniform, diffuse, brownish pigmentation of the eyelids, which is most marked in the upper lid. The pigmentation is bounded by the eyebrows superiorly, and the lower margin of the orbit interiorly. The conjunctiva is not affected. This is an early symptom, and frequently becomes less distinct as the disease advances; in rare cases it may be entirely absent. A tendency to pigmentation of the skin has been observed by others, both in Graves's disease and myxœdema, but the localization on the eyelids has not previously been described. Possibly the occurrence of pigmentation is related to the peculiar condition of the blood in Graves's disease described by the writer and Rosin, who found that, though the percentage of red corpuscles was normal, and the percentage of iron was more or less reduced, the results of the estimation of hæmoglobin were invariably higher than normal. Jellinck (Wiener klinische Wochenschrift, October 27, 1904).

HÆMOPTYSIS, TREATMENT OF.

In this condition, as in the case of other symptoms, the golden rule is, if possible, to remove the cause. Although tuberculosis is the most common cause of hæmoptysis, there are other causes which should be constantly borne in mind. The accessible cavities should always be examined in all cases of doubtful origin—the nose, pharynx, larynx, and mouth. Bleeding gums should also be thought of. Many patients with bronchitis or bronchiectasis occasionally bring up a little blood-stained sputum. One form of hæmoptysis depends upon degeneration of arterioles and capillaries, in gouty, rheumatic, and often emphysematous patients of middle or advanced age. The hæmoptysis of heart disease can generally be distinguished by appropriate physical signs. Hæmoptysis may be due to thoracic aneurism communicating with a bronchus. When there is a brassy cough and persistent pain in the chest, this disease should always be suspected.

The treatment of all these forms of hæmoptysis is the same as for the symptom in general, with modifications appropriate to the disease in the course of which they occur. In the form connected with pulmonary tuberculosis, the patient should be placed at rest in bed. When the bleeding is moderate in amount it is a good plan to give hypodermically $^1/_4$ grain of morphine. When, however, the bleeding is so profuse as to flood the air passages and suffocate the patient, the morphine should not be given. Free purgation is a useful measure. Calcium chloride may be given in 20-grain doses every four hours. Turpentine sometimes checks internal bleeding. An icebag to the chest may do good by quieting the heart. Inhalation of the nitrite of amyl may be tried. The systemic vessels are of much greater extent than the pulmonary, and thus a general dilatation of arterioles will be accompanied by diversion of blood from the pulmonary circulation and consequent reduction of pressure. C. H. Cattle (British Medical Journal, January 14, 1905).

HÆMORRHOIDS, TREATMENT OF.

The great majority of cases of hæmorrhoids of whatever form can be treated radically, satisfactorily, and with little discomfort to the patient at the physician's office. It should also be emphasized that the after-treatment of these cases requires careful attention. The bowels, as a rule, should be confined for forty-eight hours. On the second night $^1/_2$ drachm extract cascaræ sagradæ fl. should be given, and sufficient thereafter to secure daily evacuations. The anal region should be kept scrupulously clean, and a pad of cotton wool, wrung out of bichloride solution, $^1/_{1000}$, placed over the anal orifice is more acceptable to most persons than a dry dressing. Good drainage must be secured and the necessary topical applications made to induce rapid healing. Should there be much pain or soreness (which is rarely the case), it can be relieved by anodyne suppositories of morphia, cocaine, or combinations of both.

An irritable or hypertrophied external sphincter is occasionally the cause of pain after these operations. This complication can be avoided by a complete division of both layers of the muscle, a painless operation, under eucaine. On no account should the internal sphincter be damaged, as incontinence might follow. T. C. Hill (Boston Medical and Surgical Journal, February 2, 1905).

HEADACHE, NASAL DISEASE AS A CAUSE OF.

Nasal disease is undoubtedly the cause of headaches in a certain number of cases; but only where there is discharge or abnormal nasal respiration. In all cases of persistent headache examination of the nose should be a routine practice. Suppuration in the accessory sinuses and marked nasal obstruction should be thoroughly treated. Small spurs and deviations should be left alone. If the middle turbinates are enlarged and pressing upon the septum, especially upon the tubercle, and if all other possible causes of headache have been eliminated, partial removal of the hypertrophied bone should be advised, since in many such cases complete relief is given. A. L. Whitehead (British Medical Journal, January 28, 1905).

LABOR, PROPHYLACTIC USE OF ERGOT DURING.

The author believes that postpartum atony of the uterus can be effectively guarded against by the prophylactic use of ergot, in spite of the views of those who hold that the drug should be given only after the expulsion of the placenta. He has found that hypodermic injection of ergotin the most advantageous method of administration, and considers that the best time to give it is ten to fifteen minutes before the birth of the child. The action of the drug is less prompt in primipara than in multipara. The author recommends the prophylactic use of ergotin in this way in all operative deliveries, in multiple births, hydramnios, in deformities, and fibroid tumors, in cases of deficient pains during the first or second stages, in cases in which previous labors have been followed by hæmorrhage, and in all Cæsarean sections. The results obtained by this plan are very satisfactory, for atonic hæmorrhage was observed in only 3 of 293 cases of forceps delivery, and only once out of 102 twin labors. Fifteen cases of hydramnios, tumors, or uterine deformity were delivered without atonic complications. Prüssmann (Münchener medinische Wochenschrift, January 10, 1905; from Medical Record, February 4, 1905).

LEAD-POISONING, BASOPHILIC GRANULATIONS OF THE ERYTHROCYTE IN.

Basophilic granules occurring in erythrocytes are normally present in small numbers in the blood of man, but may be increased in numbers under certain pathological conditions, and decrease as convalescence is established. Nucleated red corpuscles are common in the blood of those suffering from lead poisoning, and are always accompanied by an increase in the number of granular red cells. The anæmia secondary to lead-poisoning, as a rule, is only of a moderate degree. The granular cells are most common in lead-poisoning, possibly have their origin in the blood-forming tissues, and are probably the results of a fragmentation of the nucleus of the red blood corpuscles. W. B. Cadwalader (American Journal of the Medical Sciences, February, 1905).

LITTEN'S "DIAPHRAGM PHENOMENON" IN DIAGNOSIS.

To students in physiology, the phrenic wave is useful as a demonstration of the respiratory movements of the diaphragm. When unbroken and over three inches in extent on both sides, it is a good indication of healthy lungs, and should be incorporated as such into life insurance examinations. It is an easy and practical substitute in many cases for the expensive and laborious x-ray examination of the movements of the midriff, when such an examination is desired (Cabot). When diminished markedly on both sides, low down in the thorax, and more marked behind than in front, it is an excellent sign of asthma and emphysema. When absent or nearly absent on one side only, it is a useful confirmatory sign of a variety of conditions which may be suspected from other signs, particularly pleurisy and early tuberculosis. When absent on both sides no conclusion of any kind is really justifiable, unless the patient has been previously known to have had good waves. W. N. Berkeley (New York Medical Journal and Philadelphia Medical Journal, February 4, 1905).

MEASLES, PRODROMAL RASHES OF.

The writer summarizes the general characteristics of the prodromal rashes of measles as follows: The great majority of them appear within the first two days of the disease. Frequently they precede the catarrhal symptoms, Koplik's spots, and the characteristic stomatitis. They are usually very transient, which accounts for the scanty attention they have hitherto received. The scarlatiniform eruptions, however, may last for a day and a night, and the isolated macules and papules even longer. They have a strong tendency to be localized. Even the scarlatiniform rashes, which are the most widely diffused, seldom occupy the same extent as the fully developed rash of scarlet fever. Their distribution is capricious, no special situation being affected. Highly characteristic is the simultaneous association of several varieties of eruption. Accidental eruptions also occur in the other acute exanthemata—*e.g.*, scarlet fever—but coexisting or following, instead of preceding the specific efflorescence.

The prodromal eruptions of measles are strikingly free from any symptoms of cutaneous irritation. There is no pain or pruritus, nor is there any subsequent desquamation. Unlike in the case of small-pox, initial rashes appear to be of no aid in prognosis in measles. The occurrence of such rashes as are here described, in an epidemic focus, should arouse suspicion, and prompt examination should be made of the buccal mucosa for Koplik's spots and the characteristic stomatitis. J. D. Rolleston (British Medical Journal, February 4, 1905).

MELANOMA.

Aside from the natural division into choroid and skin tumors, melanotic neoplasms, which from their diversity of origin, are best called melanomata, show several varieties. The commonest, and therefore most important, is that derived from soft nævi, which are endotheliomata of lymph vessel origin. Nævomelanoma whose histogenesis is not possible to determine must be referred to the same origin. A second variety exists with the same histological pictures which does not spring from nævi, and whose origin is directly traceable to endothelium, probably also lymphatic. This group includes melanotic whitlow and the malignant lentigo of the French. The third division is truly epithelial in origin, although its existence has been denied. These tumors are of various types, and show only a very slight local tendency to malignancy, a fact sufficient in itself to determine a cardinal difference from the melano-endotheliomata whose capacity in this connection can hardly be exaggerated. A histological diagnosis is the only proper method of differentiation between the two. J. C. Johnson (Journal of Cutaneous Diseases, February, 1905).

METABOLISM, THE INFLUENCE OF A DIET POOR IN CHLORIDES ON.

From a study of the changes in oxidation in healthy persons on a diet rich or poor in chlorides, the writer has found that as chloride of sodium is decreased there is a greater decomposition of albumins; he has studied the effect on the blood and found that it became poor in corpuscles and in hæmoglobin. The author concludes that chloride of sodium aids digestion not only as a condiment, but as an indispensable element for maintaining the normal condition of the organism. In some cases of hepatic cirrhosis no fixed relation between the subtraction of chlorides and the presence of ascites is found. There is partial retention of the chlorides in this disease, but the amount of chlorides retained in the system is not the same as that excreted in the urine. He believes that the removal of chlorides from the diet is not beneficial in hepatic cirrhosis. Calabrese (Rivista di Clinica Medica, November 26, 1904; from Medical Record, January 28, 1905).

MOVABLE KIDNEY, NEW OPERATION FOR.

So many methods have been employed with varying success in the effort at replacing a movable kidney that a technique which promises to give better results than those previously employed will be welcomed. The writer states that by this operation the kidney is swung up in its own capsule practically in normal position. A four-inch incision is made to the vertebral side of the angle between the last rib and the rector spinæ downward and outward toward the anterior superior spine. The kidney is found and is pushed up to, but not out of, the wound, and a small puncture is made in the capsule so that a probe or director may be insinuated, and a large blister be gradually separated from the vertebral surface and outer border of the kidney. This is the portion of the organ that normally looks backward, and by peeling the capsule off here the kidney is kept as nearly as possible in its proper place. A horseshoe-shaped flap of capsule can be separated so that the base is just about the center of the horizontal axis of the kidney. The margin of the blister is now cut in a U shape, the concavity downward. To preserve the inner tilt of the upper border of the organ, the inner limb of the incision may be made a little longer than outward. The finger is now insinuated under the ligamentum arcuatum externum, and the tissues on its deep surface peeled up so as to get rid of the pleura. The finger then protects the pleura and an incision is made about a third of an inch or more above the lower margin of the ligament and parallel to its fibers to the whole available distance. The last forsal nerve should be avoided. Kocher's artery forceps are pushed through the slit and the free end of the separated capsule is drawn through, spread out, and stitched down to the ligament. The wound is sutured in layers, catgut being used for the deep stitches and silkworm gut for the skin. Andrew Fullerton (British Medical Journal, December 24, 1904).

NARCOSIS, THE PHYSICAL BASIS OF.

A subject that touches the borderlands of physiology, biology, pharmacology, and clinical medicine, is that which attempts to explain the relative power of the various narcotics from the standpoint of physical chemistry. A new theory that seeks to show the mutual relationship of osmosis and narcosis, and to discover the physical laws that underlie both, has been carefully worked out by the writer. Overton recently compared the various speeds with which different narcotics diffuse into protoplasm. He found that monatomic alcohol, aldehydes, ketones, etc., penetrate the cell wall more quickly than the diatomic alcohols and the amides of the monatomic acids, and then in decreasing order, come glycerine, urea, etc., until the salts of the strong inorganic and organic bases and acids are reached, for which the cell-wall is wholly impermeable. The permeability is increased in homologous series by the substitution of hydrogen by methyl, and the latter by ethyl. He found that the narcotics pass through membranes the more quickly the more soluble they are in the lipoids, such as fats, cholesterin, lecithin, etc. Overton and H. Meyer also pointed out that the good narcotics, anæsthetics, and antipyretics collectively belong to the substances that osmose quickly, and they proposed the theory that the efficiency of a good narcotic depends in the first instance on the degree of its solubility in lipoids. Overton assumes that the cell-wall, and if Quincke's theory be correct, that the walls of the foamy cell-contents contain lipoids, and the ease with which a substance penetrates these walls depends upon its solubility in these lipoids. The author believes that there are grounds for denying that this is always the case. Instead of a foamy structure, he conceives of a membrane as a network of fine capillaries, without regard to whether it contains lipoids or not. Osmosis may be explained upon the principle of capillarity. Repeated investigations have shown that the greater the osmotic power of a water-soluble substance is, the more it lowers the capillary pressure of the water. Substances that are capable of traversing membranes, increase the capillary pressure of the water in which they are dissolved. Diminution in capillarity and increased facility of osmosis run a parallel course. If two liquids are separated by a membrane, such that the surface tension of one is less than that of the other, the former will osmose into the latter. Thus the difference in surface tension determines the direction and rapidity of osmosis. The force of osmosis is not osmotic pressure, but surface tension. In most, if not all instances in physiology, surface tension is to be put in the place of osmotic pressure in explaining dialysis. Whereas, the number of molecules or ions determines the degree of osmotic pressure, it has no effect on surface tension; hence both forces must be considered distinct. In determining the various solubilities of different substances, the author found that those are the most soluble whose surface tension is the least. Solubility, solution tension, and surface tension are therefore intimately related. The surface tension of solutions is determined by that of the dissolved substance. Solution tension and capillarity are more intimately connected than solubility and capillarity. Thus methyl and ethyl alcohol are both equally soluble in water, but the solution tension of the former is much greater than that of the latter. The author discovered the following law, namely: that substances of equal capillary activity belonging to homologous series (ordinary alcohols, fatty acids, esters, etc.), lower the rise of water in the capillary tube in the proportion of $1 : 3 : 3^2 : 3^3$. . . . The author believes that the rapidity with which the narcotics penetrate the walls of the ganglion cells of the brain, is not due to the fact that these substances are soluble in the lipoids of the cell-wall, but is to be attributed to the surface tension. When the narcotics have penetrated the interior of the cell, they then dissolve in the lipoids and unfold their narcotic power in proportion to this solubility. As pure non-toxic narcotics, those are to be regarded that dissolve in the lipoids without causing any chemical reaction, either union with or decomposition of the proteids or other bodies of the cell. On the other hand, there is a series of narcotics which have a decided toxic action; which is easily explained on the basis of their constitution, since they give rise to accessory chemical reactions. As examples of the latter may be mentioned nicotine, allyl-alcohol, phenol, etc. Even the pure narcotics are not entirely non-toxic, since while they are soluble in the lipoids, they in their turn dissolve some of the fatty substance. It is doubtful whether a really good narcotic will ever be found. Experiments show that in the pure narcotics there is a close relationship between surface tension and narcotic power. According to Overton, in homologous series the narcotic action increases with the increasing content of carbon, with the substitution of hydrogen by alcohol radicals, as well as from tertiary through iso—to normal compounds. The same holds true of the capillary activity of these substances. The substitution of hydrogen or amido groups in place of a hydrogen atom lowers capillary activity as well as narcotic power. It is also found that the narcotic action of homologous substances (as alcohols, esters, etc.), with an increasing molecular weight, increases in the proportion of $1 : 3 : 3^2$. J. Traube (Pflüger's Archiv, December 1, 1904; from Medical News, February 18, 1905).

PANCREAS, ROLE OF THE NERVES OF THE.

According to the writer, there is very little in the literature of the functional relations of the pancreas which concerns the rôle of the nerves of this organ. Since 1888, when Martinotti for the first time removed the pancreas in dogs, a great deal of research work has been done on the gland itself, on the islands of Langerhans, etc., and on the relation of the pancreas to diabetes, but little has been done to show the exact functions of the nervous mechanism of the gland. The writer resected the pancreatic nerves in a series of dogs, and on another series, in addition, tied portions of the gland itself at each end thereof, in order to compare the behavior of the isolated segments with that of the central portion. The dogs bore the operations well and not only did not show any signs of illness, but increased in weight. There was never any sugar in their urine. On autopsy, nothing unusual was noted in the gland in the way of lesions. The tied portions were uniformly atrophied and did not show the special resistance in the islands of Langerhans which has been described by Schultze. The blood-vessels of the gland were very much dilated, even as long as six months after the operation, and their walls showed degenerative changes, except in the central portion of the pancreas. The islands of Langerhans showed important degenerative changes, and the fact that these changes occurred without producing any glycosuria points to the supposition that these structures are not concerned in the function of the pancreas to the extent supposed. The writer thinks that the islands of Langerhans represent embryonal residues in the gland, or that they are structures which have a more important function in the lower vertebrates. G. Zamboni (Riforma Medica, January 7, 1905).

PNEUMONIA.

The author believes that he has often been able to save life in pneumonia by the treatment he advocates. Two illustrative cases, which give the treatment in detail, are recorded. Quinine and the tincture of the chloride of iron are the "specifics." The iron is given in 15-minim doses every three hours; the quinine according to the severity of the case. In the first case reported the patient received 90 grains of the drug in the first twenty-four hours, 40 grains in the second, and 45 grains in the third. In the second case the patient received 115 grains in two unequal doses in the first hour after his arrival at the hospital, and a total of 155 grains in the first twenty-four hours. During resolution quinine must be used with care, as cinchonism may be produced by 5 to 10-grain doses. W. J. Galbraith (Journal of the American Medical Association, January 28, 1905).

PNEUMONIA, LOBAR, SOME IRREGULAR FEATURES OF.

The author points out the sequel empyema as one of the most common irregularities of pneumonia met with. This is more common in childhood and early life than in older patients. The patient generally passes the crisis as usual. The temperature may, or may not, go to normal. But the writer has never seen a case in which the pain and distress completely left the affected side. In from twenty-four hours to a week the temperature begins to rise and fluctuate, the pulse becomes weaker and more rapid, chills or chilly sensations occur, indicating the presence of pus. If, in the course of pneumonia, the resistance of the pulmonary pleura is overcome, and the germs of the disease find their entrance to the pleural cavity, which is already congested and inflamed, they change a plastic or serofibrinous pleurisy to a purulent one, and empyema results. The physician should never forget the possibility of the development of this complication in cases of lobar pneumonia, in the young especially, and whenever the pleura is extensively involved, and the pain unusually severe and prolonged. Another irregularity of lobar pneumonia is the so-called central pneumonia, or pneumonia with late localization. The chest symptoms develop so late that in some cases the crisis is passed before a slight pleuritic friction sound is detected, which conclusively establishes the diagnosis. The amount of involvement of the lung in any case does not seem to influence the temperature.

Another irregularity is called migratory pneumonia. It begins in a certain lobe, and while it runs its course there, extends to one or more other lobes. There may be a crisis for each lobe involved.

Tympanitis is a serious feature of pneumonia. It is due to a partial paralysis of the stomach and bowel, accompanied by fermentation of their contents. This condition is doubtless often aggravated by too much opiate and a too copious diet of milk. The effects are mechanical and toxic. The lungs and overworked heart are pressed upon, and the fermented intestinal products are absorbed and added to the toxæmia of the disease. Unless the condition can be relieved in time, the end is without doubt fatal.

The reflex pain in the initial stages of pneumonia has attracted much attention of late. It sometimes leads the physician to suspect the existence of gall-stones, peritonitis, or appendicitis. Usually, a thorough examination of the chest will reveal the existing conditions. A central pneumonia rarely gives rise to much pain. In every case of abdominal pain, the lungs should be examined, and then but few mistakes will be made. C. K. Law (Medical News, January 28, 1905).

PNEUMONIA, TREATMENT OF.

The writer believes in an early and active treatment of pneumonia based on the pathology of the disease and having in view the warding off of disastrous consequences. He scores roundly the so-called expectant treatment. The object should be to arrest the morbid process by other abortive measures than the missing antitoxin; to restrict the invading host, though it cannot be stopped; to destroy or to neutralize the poison by the vital energies, and to hasten its elimination. For the shock of the invasion, immediate recumbency, warmth, and a small dose of ether or brandy, with hot water, are indispensable. A soothing draught is desirable, such as ammonium bromide with aromatic spirits of ammonia. A dose of calomel is given at once, to be followed half an hour later with a senna draught. Arrangements must be made for the immediate supply of oxygen, which is to be administered continuously as an aid to the heart. It has the advantage over alcohol in being harmless and in not complicating the alimentary situation. The author makes leeching a routine of treatment quite apart from the question of pain. The stronger measure of venesection may be required in some cases, but viewed all round it is not, perhaps, so desirable as leeching. He doubts that it should be resorted to after consolidation has occurred except as a desperate remedy when heart failure is threatened. The abstraction of blood, preferably by leeching, is of great value in proportion to the early date of its employment before the deposition of fibrin. Sweating may be promoted by the hot-air bath, confined to the lower extremities, or by Rochester's hot mustard footbath. The chief aims of medication are diaphoresis, diuresis, antifibrinosis, and absorption. The author trusts to the free use of ammonium citrate, to which sweet spirits of niter may be added. Sweating is encouraged by warm beverages. Divided doses of calomel are also given. Fluidity of the blood is brought about by the administration of citric acid, which precipitates the calcium which is essential to clotting, or large doses of iodide of potassium. The administration of the iodide of potassium is continued throughout to the end of the attack. The author has prescribed it to the extent of 60 grains per day with good result. The prescription which he uses for the first day, for adults, is as follows:—

℞ Potassii iodidi, gr. v.
Liq. ammon. citratis, ʒij.
Spts. etheris nitrosi, ʒss.
Spts. ammon. arom., *m*xx.
Aquæ chloroformi, q. s. ℥ss.

One tablespoonful of this mixture, diluted, is given every hour for six doses, and subsequently every three hours; $^1/_6$ of a grain of calomel is taken every four hours.

The author thinks alcohol in moderation is indispensable from the first as a stimulant and as a food substitute. The diet should be made as watery as possible. Whey is preferable to milk, as it gives no heavy coagula to keep up fermentation.

During the second day the same medicine may be continued. Three grains of quinine, in pill or powder, will be a useful addition to each dose. Four ounces of alcohol, or perhaps six, will be required. The whites of two or three eggs can be added to the whey and the yolks beaten up with gin or brandy. A quarter of a pound of sugar should also be given in the whey. A sleeping draught may be required if the patient is restless. On the following days support is the main indication. Raw meat juice, strong gravy, predigested foods and eggs beaten up should be substituted for the whey, and good milk given in tea or thickened with cocoa.

Oxygen must be continued and strychnine frequently injected in anxious cases. In safe cases the latter may be included in a fresh mixture with carminatives, and iodide of potassium and quinine should also be administered. In the worst cases a second leeching or even venesection may be indicated. As a preliminary to the latter, two single doses of digitalis might be given at an interval of two hours, and the venesection immediately preceded by a 10-minim dose of a 1 in 1000 solution of adrenalin under the skin. The further treatment must be indicated by the progress of the case. For the gin or brandy, whisky, rum, champagne, port wine, or burgundy may be substituted as long as there is need for a stimulant. The writer says that the virtues of red wines, particularly when administered hot and with plenty of sugar, are too much neglected in pneumonia. He regards hot lemonade as of value in the early stages, particularly when the outer glandular layer of the lemon is also made to yield its previous contents. William Ewart (Lancet, January 21, 1905).

PROSTATIC ENLARGEMENT, PATHOLOGICAL CHANGES RESULTING FROM.

The general practitioner should be prepared at least to make a rectal examination of the prostate whenever symptoms point to that region. If hypertrophic changes are found, and after careful treatment the tumor does not diminish in size, surgical intervention should be advised and insisted upon. If infection has not preceded catheter life it is sure to follow. The patient's life under this condition is appalling and most pitiable.

Early prostatic operations are not dangerous; late ones are always dangerous and frequently fatal. The general practitioner has the fate of the prostatic in his hands, either to guide him over his trouble or to advise him to continue a life of miserable suffering which intensifies itself toward the end. C. E. Barnett (Cincinnati Lancet-Clinic, February 25, 1905).

PROSTATIC HYPERTROPHY, SURGICAL TREATMENT OF.

Literature on prostatic surgery has been very confusing owing to the large number of methods of operation advocated by prominent surgeons. Suprapubic drainage of the bladder is advised in those cases too weak to withstand an operation; if improvement follows this procedure, then a radical operation is indicated. There are three radical methods that are without doubt the most valuable —suprapubic prostatectomy, perineal prostatectomy, and the Bottini operation, and each of these has a definite place in prostatic surgery.

The relative advantages and dangers of each method should be well known, as the pathology and conditions are so varied that no routine treatment for all cases can be advisable. All patients should be operated on before the breakdown in catheter life, and the earlier the operation the fewer will be the complications encountered. The suprapubic route is indicated when there is a large intravesicular, mobile, adenomatous growth, with general health and bladder and kidneys in a satisfactory condition.

The perineal operation is more desirable for small, dense, fibrous prostates firmly attached, and those where the growth is largely along the urethra or back toward the rectum. The Bottini is indicated in those cases where prostatectomy is refused, and in selected cases, where the general health and kidneys contraindicate more radical measures. Of course, it is never to be used for a large, rapidly growing hypertrophy.

In the suprapubic operations hæmorrhage is to be avoided by keeping carefully between the capsule and sheath. In the perineal operations the central tendon of the perineum should be carefully cut close to the rectum, but with the finger in it to prevent injury. Laceration of membranous urethra should be avoided, as incontinence of urine will follow.

Marked improvement results in the large majority of cases where the operation has been properly selected and carefully performed. E. G. Ballenger (Medical Record, February 4, 1905).

PRURIGINOUS DERMATOSES, X-RAYS IN THE TREATMENT OF.

The skin should absorb as quickly as possible the quantity of rays necessary for a cure, provided always that this quantity is compatible with the maintenance of the integrity of the skin. If this should not be possible the maximum dosage that can be employed with safety should be administered at each session or series of sessions. An interval of fifteen or twenty days should elapse between any two applications. Treatment should not be resumed until the reaction has nearly or quite subsided, the relative condition of the tissues and the lesion being the guide as to the dosage to be administered. By observing the foregoing method the author has entirely avoided the production of severe accidents in all the 150 cases which he has treated by radiotherapy. Belot (Archives of the Roentgen Ray, January, 1905).

PRURITUS ANI, INVETERATE, TREATMENT OF.

The author's method, a surgical one, is as follows: The skin having been closed, a curved incision is made on each side of the affected area, enclosing the entire ellipse, with the exception of a narrow neck in front and behind; these incisions are carried down the sphincter muscles and the flaps raised by careful dissection with scissors from the surface of the muscle, round its anal origin and up the anal canal to above the mucocutaneous junction, the dissection extending round the entire circumference, all connections with the subjacent tissue being divided. The pedicles in front and behind are now undercut to a point well beyond the area of irritation, and the outer concave edges of the incision are also undercut to a distance of at least a quarter of an inch free of the involved skin all round. Care must be taken to stop all bleeding before the flap is replaced, as the formation of a hematoma in the wound might interfere with the vitality of the flaps. The flaps are finally replaced and retained by sutures, a few intervals being left between them for drainage. The immediate result of this operation is to render the entire ellipse included between the incision, the pedicles and outer edges as far as they have been undercut, superficially anæsthetic, and the itching is at once relieved. Three cases in which this method was used demonstrate that the operation gives immediate relief, and that superficial sensation may be destored without recurrence of pruritus. Should recurrence of pruritus supervene after the operation, the removal of the posterior roots of the third and fourth sacral nerves, with their ganglia, would have to be considered. Charles Ball (British Medical Journal, January 21, 1905).

PURGATION BEFORE AND AFTER OPERATION, THE ABUSE OF.

Excessive purgation should be restricted because it is enervating to the general system. It produces great irritation to the mucous lining of the bowel. It may add to some of the dangers most anxiously avoided: ileus and paresis. Purgatives have very little effect in limiting the amount of extraperitoneal exudate and fluids. Instead of calomel and saline purgation, bland evacuants such as castor-oil should be used before abdominal section. The use of suitable, bland non-fermentative foods is desirable until just before operation in weak patients. After operation peristalsis should be limited; only small quantities of food and drink given by the mouth. Opium should rarely be given. Enemas should be administered to relieve distention and cause peristalsis in downward direction. After normal peristalsis laxatives should be given as required. I. S. Stone (American Medicine, February 25, 1905).

RENAL AND URETERAL CALCULI, DIAGNOSIS OF.

The writer wishes to emphasize the importance of early diagnosis in renal and ureteral calculi for the following reasons: By early surgical interference the kidney can be saved and the patient given relief from a disease which, "though swift and fatal in anuria, torturing in colic, and slowly, grimly progressive in suppuration, also presents possible vistas of years of comparative health and comfort, a delusive prospect with which the timorous sufferer would fain brace his refusal of the knife."

The operation of nephrolithotomy offers a perfect cure. No operation in surgery is attended with more brilliant success. The mortality of this operation is about the same as that of lithotrity, while the dangers of nephrotomy and nephrectomy are many times greater.

By an early diagnosis and operation, alarming and distressing complications and a final resort to these more serious operations may be avoided. H. A. Fowler (Medical Record, February 4, 1905).

RENAL CALCULUS, DIAGNOSIS OF, BY MEANS OF X-RAYS.

The writer details his experience based on the examination of 125 patients. In 30 of these a positive diagnosis was made by means of one or more plates, and the presence of stone was confirmed by operation. In 26 the deposits were in the renal pelvis or extreme upper end of the ureter; in 4 in the pelvic portion of the ureter. The author's conclusions are as follows: The positive diagnosis of kidney stone by the x-rays is reliable and of great practical value. The negative diagnosis of kidney stone by the x-rays is reliable and valuable up to a certain limit. If pictures of a proper quality are obtained, calculi of oxalate of lime and phosphates can be excluded. Pure uric acid calculi cannot. Pictures of a proper quality can be obtained with ease in children and slender adults of both sexes. Such pictures can usually be obtained by repeated trials in well-nourished adults. When patients are unusually stout, when the abdomen is very thick and the buttocks are large, the conditions are extremely difficult, and only occasionally will a satisfactory result be obtained with the present form of apparatus. A. B. Johnson (New York Medical Journal and Philadelphia Medical Journal, February 4, 1905).

RENAL CAPSULE, THE FUNCTION OF THE.

The recent therapeutic application of decapsulation of the kidney with beneficial results in cases of colicky pains, hematuria, and albuminuria, and the still more recent cures of simple Bright's disease reported by the use of this simple surgical procedure, impart a peculiar interest to the research conducted by the author in the rôle of the renal capsule for the function of the kidney. The fibrous coverings of the liver, spleen, pancreas, and all other parenchymatous organs, when compared with that of the kidney, show the following marked difference, namely: that while the former are very thin and rightly adherent, forming an integral part of the organ, the latter is a strong fibrous covering, easily detached from the organ. The author assumes, *a priori,* that the capsule of the kidney is functionally more important than the capsules of the other organs. By means of the oncometric method of investigation, which records the minutest changes in the size of the kidney, the author sought to discover the influence of the capsule on the kidney. He used two different agents with which to bring about a shrinkage of the kidney: adrenalin, which actively contracts the blood-vessels of the kidney simultaneously with the rise of the general blood-pressure, and stimulation of the vagus nerve, which causes a diminished supply of blood to the kidney through the weakening of the heart action and the consequent fall in blood-pressure. Twenty-four or forty-eight hours after decapsulation of a dog's kidney, the author clasped it in the oncometer and, after taking the normal tracing, either injected adrenalin or stimulated the vagus. On comparing the resulting tracing with that obtained from the non-capsulated kidney, he finds that in the latter, immediately after the injection or stimulation, the tracing falls, then continues for some time on the same level, but always shows pulsation and returns to the old level, mostly even before the tracing of the carotid becomes normal. In the decapsulated kidney the tracing also falls immediately after the injection, then for a considerable length of time continues as a straight line, showing an absolute cessation of pulsation in the kidney, and returns to the normal much later than the carotid blood-pressure. From these results the author draws the following conclusion: Any stimulus, which either by contracting the general blood-pressure or weakening the action of the heart, diminishes the size of the kidney, exerts a much stronger influence on the decapsulated kidney than on the normal one, and this influence also lasts longer on the former. The capsule acts like an elastic covering. On the one hand it prevents an undue overfilling of the kidney with blood, on the other hand it does not allow the kidney to remain contracted and bloodless for a long time. I. Levin (American Journal of Physiology, November 4, 1904).

RHEUMATISM, THE RARER FORMS OF.

Some interesting comments on this subject are made by the author, who believes that a sharp line must be drawn between muscular and joint rheumatism. To secure uniformity and to avoid confusion, the term muscular rheumatism ought to be dropped, and the word rheumatism applied to that inflammatory condition of the various locomotive organs and their appendages which result from sudden changes of temperature. Persons inclined to rheumatism need not therefore fear intense, uniform cold, but rather over-heating, especially that brought about by muscular exertion, followed by sudden rest and cooling. The quickest and most reliable remedy in cases of fresh or acute rheumatism is exercise. The patient may safely indulge in all those movements which cause pain, but care should be taken to exclude joint rheumatism. Chronic rheumatism can only be cured by mechanotherapy, in which active and passive movements play an important part. Among the rarer sites for rheumatism, which are little mentioned in the literature, are the following: A rheumatic process in the periosteum of the ribs, the sternum, and the long bones; rheumatism of the diaphragm, isolated rheumatism of the coccyx and the pelvic outlet; and localized rheumatism of the muscles of mastication. Instances of these are cited and good results were secured in all, but that of the diaphragm, by forcible massage. For rheumatism of the diaphragm the faradic current gave some relief. A number of localities are mentioned which are favorite sites of the rheumatic process, mostly muscular attachments. J. Schreiber (Berliner klinische Wochenschrift, November 21, 1904).

RUPTURE OF THE INTESTINES.

The author has studied a number of cases of traumatic rupture of the intestine in which there was no injury to the abdominal wall. Two personal cases are reported in full. The author considers the symptomatology and diagnosis of these often obscure cases. Any injury to the abdomen may be associated with damage to the intestine or other viscera. An exploratory operation is justifiable in cases with distinct rigidity. An operation is absolutely indicated when there is, besides rigidity, pain, tenderness, vomiting, shock, dullness, or other symptoms indicative of some intra-abdominal disturbance. Cases not operated in are lost. The importance of early operation cannot be too strongly emphasized. At present the death rate is about 75 to 80 per cent. When a greater proportion are operated upon early, the death rate will be much lower. C. P. Flint (Medical Record, February 18, 1905).

SCARLET FEVER, INFECTIVITY AND MANAGEMENT OF.

The infective agent in scarlet fever has been proved definitely to be present in the throat, and not infrequently in the nasal cavities also. The bacterial poison exhibits a selective action, affecting the kidneys and the superficial layers of the skin, resulting in desquamation, but in all probability the desquamating cuticle is not infective. As in diphtheria, it is impossible to ascertain definitely by clinical means when the patient has been freed from infection. It is probable, however, that the majority of patients are free from infection at the end of the minimum period of isolation usually prescribed six weeks. Transmission of infection is especially liable to occur from those who suffer or have suffered from rhinitis, and a nasal discharge is always to be viewed with suspicion. The conditions necessary for the transmission of the disease are the following: The contagium must be present in a form capable of being carried; there must be a vehicle for its conveyance; it must be actually conveyed to a mucous membrane; the germ must be still virulent when received; the dose must be sufficiently large; and the receiver must be susceptible to infection.

The author favors hospital treatment, especially among the poorer classes. Among the drawbacks of segregation, however, are the following: The risk, in case of a wrong diagnosis, of the patient's acquiring scarlet fever; the possibility of secondary infection with some other disease; the longer period of isolation; differences in virulence of cases in the same ward, with resulting detriment to the milder cases; detention because of simple rhinitis; reinfection; the occurrence of "return" cases on the patient's return home. W. T. G. Pugh (Lancet, February 4, 1905).

SCIATICA, TREATMENT OF.

The author describes a plan which he has found prompt in giving relief in intractable cases of sciatica. The method consists in injecting a considerable quantity of fluid into the nerve itself, and is carried out as follows: The solution used contains 1 part to 1000 of eucaine-B in 8 per cent. salt solution, and is sterilized by heat. The point of exit of the nerve from the sciatic foramen is located, and the superficial parts are anæsthetized with the solution in a syringe provided with a long needle. The needle is then carried deeper into the tissues down to the nerve, which is situated at a depth of about 7 centimeters, and is not difficult to strike, as it is over a centimeter in width. The course of the needle through the skin and muscle is not painful, but as the nerve sheath is entered the patient gives a convulsive jerk. This indicates that the nerve has been reached, but the pain lasts only a moment, as the fluid is at once injected, $^{70}/_{100}$ cubic centimeters being forced in quite rapidly. The patient is told not to lie on the affected side for some time after the injection, and the feeling of tension produced usually disappears after a few hours. In some cases the injection must be repeated after several hours. A rise of temperature was observed in some of the cases, but this promptly subsided.

The author's cases were eleven in number, and in five the treatment was effectual, twice after a single injection, and three times after two injections. Another case was doubtful, four were improved, and one was not influenced. Although the number of cases is small, the dramatic nature of the prompt and complete cures obtained in bed-ridden patients whose suffering had not yielded to any of the ordinary anodynes, leads the author to publish his results in the hope that others will make use of it in order to determine the type of cases amenable to the method, and the permanency of the cures thus affected. Lange (Münchener medicinische Wochenschrift, December 27, 1904; from Medical Record, January 21, 1905).

SERUM INJECTIONS, THE EFFECT OF, ON THE BLOOD.

The writer has tested the effect of injections of diphtheria, tetanus, and antistreptococcus serum on the blood of healthy rabbits with the following results: In all cases the serum produced a slight and transient decrease in the number of red blood-corpuscles and in the amount of hæmoglobin. The specific gravity of the blood showed no constant change. Small doses of the serum produced no leucocyte reaction; larger doses produced a leucocytosis, lasting a few days. The temperature of the body showed no noteworthy alteration. With the diphtherial serum the body weight was slightly diminished, but not with the others. The general state of the animals showed no pathological change, even with large doses. When the antitoxic activity of the serum was destroyed by heating, precisely the same effects were observed to follow its injection, and similar effects were noticed after the injection of normal horse serum. The conclusion arrived at was that the serums had no prejudicial effect on the animal economy beyond that which the normal serum, free from any antitoxic substances, possessed. Kucharzewski (Arch. Internat. de Pharmacodynamie et de Thérapie, vol. xii, p. 117, 1904; from British Medical Journal, February 11, 1905).

SLEEP, BIOLOGICAL THEORY OF.

The writer considers as erroneous the usually accepted conception according to which sleep is thought to be the consequence of an arrest of functioning, by intoxication and by asphyxia. He believes, on the contrary, that sleep is a positive function, an instinct which has for its purpose arrest of functioning. It is not because we are intoxicated or exhausted that we sleep, but we sleep in order to avoid these conditions. The fact that sleep is not proportional to exhaustion is an argument in favor of this theory. Sleep may be partial. One sleeps through certain noises, but not through others. Finally, the curve of the profoundness of sleep, inexplicable by the toxic theory, is in harmony with the theory that regards this phenomenon as a positive nervous function. The instinct, the reflex is provoked by numerous excitants: endogenous (condition of the blood, sensation of fatigue), exogenous (images empirically associated with the idea of sleep). The phenomenon in itself is a reaction produced by these excitants, and is an inhibition which manifests itself subjectively by a lack of interest in exterior things. Claparède (La Presse Médicale, December 21, 1904).

STOMACH, THE PASSAGE OF FOODSTUFFS FROM THE.

By means of the Roentgen rays the writer was able to study the time it takes the various foodstuffs, mixed with bismuth subnitrate, to pass from the stomach. Fats remain long in the stomach. The discharge of fats begins slowly and continues at nearly the same rate at which the fat leaves the small intestine by absorption and by passage into the large intestine. Consequently there is never any great accumulation of fat in the small intestine. Carbohydrate foods begin to leave the stomach soon after their ingestion. They pass out rapidly, and at the end of two hours reach a maximum amount in the small intestine almost twice the maximum for proteids, and two and a half times the maximum for fats, both of which maxima are reached only at the end of four hours. The carbohydrates remain in the stomach only about half as long as proteids. These frequently do not leave the stomach at all during the first half hour. After two hours they accumulate in the small intestine to a degree only slightly greater than that reached by carbohydrates, an hour and a half earlier. Egg albumin is discharged from the stomach at about the carbohydrate speed. Doubling the amount of carbohydrate food increases the rapidity of the carbohydrate outgo from the stomach during the first two hours; whereas doubling the amount of proteid food strikingly delays the initial discharge of proteid from the stomach. The interval between feeding and the appearance of food in the large intestine is variable, but the mean for carbohydrates is about four hours, for proteids about six hours, and for fats about five hours. W. B. Cannon (American Journal of Physiology, December 1, 1904).

SUBCUTANEOUS ALIMENTATION.

The author has used subcutaneous alimentation for a number of years and, in suitable cases, has found it of considerable service. His experience has been chiefly with surgical cases. At present this method of administering nourishment is still in its infancy. His experience has been chiefly with isotonic salt and sugar solutions and with olive oil. With the latter substance his experience has been very limited. 1. Normal salt solution. This is used mostly for furnishing fluid to the tissues. A $^{9}/_{10}$ of one per cent. solution is advised. It may be given either subcutaneously or intravenously. 2. Isotonic sugar solution. This is given for its food value. A 5 per cent. solution is isotonic to the blood. It should be given subcutaneously, best, at the inner side of the arm near the axilla. The total quantity to be used at each injection. 3. Sterile olive oil, while theoretically of high potential food value, is probably not very efficacious, as it is absorbed very slowly. A. E. Barker (American Medicine, February 1, 1905).

SUPPURATION, TEMPERATURE AS A GUIDE TO THE EXISTENCE OF.

Chronic suppurative processes are very frequently unattended by fever. Acute suppurative processes are frequently unattended by fever; therefore, in a given case the absence of fever must have little weight *by itself* in excluding the possibility of suppuration. Since a rise of temperature above 100° F. occurs in about two-thirds of all aseptic cases, the presence of fever *alone* must have little weight in making a diagnosis of suppuration. Lyman Allen (International Journal of Surgery, February, 1905).

SUPRARENAL PREPARATIONS, EFFECT OF, ON LIVING PROTOPLASM.

The author performed a series of experiments in order to determine the effect of suprarenal preparations on living protoplasm. The results of this work go to show that suprarenal preparations have a marked effect on cell division of healing tissue and upon the proliferation of cells constituting granulation tissue. It may be assumed that these solutions will have an effect depending upon the strength of the solution as well as the duration of the exposure, and that it is possible to kill cells or to prevent their activity, or retard cell division. The writer believes that the vitality of protoplasm is weakened by suprarenal solutions. As to the effect of these preparations on cilia, in solutions of 0.000003, there was an increase in the activity of the ciliate movement over the normal, in the eggs of the sea-urchins, while in other strength solutions there was a decrease. The turtle heart was used to determine the effect on contractile tissue. The experiments all showed that suprarenal solutions were powerful muscle stimulants. The writer believes that we are warranted in asserting that suprarenal preparation, at least in the lower animals studied, have a tremendous influence on the power of cell division, on the development of protoplasm, on the movement of cilia, and on contractile tissue. Beaman Douglass (American Journal Medical Sciences, January, 1905).

SYPHILITIC RECRUDESCENCES, THE PATHOGENESIS OF.

The clinical course of syphilis presents so many puzzling features that it has always furnished a fruitful source of speculation to pathologists. The fact that a disease may give rise to repeated relapses years after its beginning and that serious sequelæ not infrequently develop after even decades of apparent health, is sufficiently curious to account for the circumstance that even the master minds of medical science have not been able to furnish unassailable explanations for the phenomenon. At the present day theorists are necessarily hampered by a lack of knowledge as to the contagium concerned, and it is probable that only the discovery of the exact character of the syphilitic virus and its relationship to the various pathological changes manifested by different phases of the malady will permit a satisfactory insight into the nature of the disease process. So long as this remains obscure the problem must be approached from the clinical side, and the chances of error are necessarily large.

Virchow considered that the spasmodic character of the outbreaks indicated an irregular outpouring of active virus into the blood, thus giving rise to virtually fresh infections. The lymph nodes were to be regarded as the depositories of the latent virus, which from time to time was set free, entered the blood, and brought about a renewal of the symptoms.

Finger adopted a radically different stand and assumed a bacterial nature of the virus as his point of departure. In an extensive critical study, published in 1890, he came to the conclusion that the primary and secondary lesions were caused by the virus itself, but that the immunity and tertiary symptoms were the result of metabolic products of the virus which gave rise to special reactions of the organism leading to the development of the late manifestations. This view was supported by the *quasi* chemical affinities of the two types of lesions, the early ones due to the virus responding to mercury, whereas the others, depending on the reaction products, are most easily influenced by iodine.

Lesser, in a contribution to the recent *Festschrift*, dedicated to Senator, adopts the older hypothesis of Lang. This author presupposes that at the time of infection the virus is carried by the blood into all the tissues, and occasions the early manifestations. The virulence of the deposited contagium gradually abates, but it still for a time retains the ability to incite recrudescences of the symptoms. After a variable period it is either partially or entirely destroyed, and in the former cases is modified to such a degree that it loses its infectious nature. During this period of dormancy it remains quiescent unless some, often external, stimulus provokes it into action, and gives rise to the late manifestations of the disease. This view is in harmony with the clinical observation that the early lesions are apt to be symmetrical, while the late symptoms are characterized by asymmetry. Lesser cites several cases in support of this theory, in which recurrences of the skin eruption took place in the pigmented spots left behind by the first exanthem. He summarizes his conception of the matter by stating that in the eruptive stage the entire body is flooded with syphilitic poison, and that this is deposited more or less uniformly in numerous foci, which serve as sources of relapse during the course of the disease. As the length of time after infection increases, more and more of these persisting germs perish and they may finally disappear completely.

The practical bearing of this assumption lies in its application to the therapeutical management of the disease. In order to hasten the diminution and neutralization of these depots of latent virus, frequent repetitions of the course of medication are necessary, and the advocates of intermittent mercurial treatment should find a potent argument for their cause in this theory of the pathogenesis of late syphilitic manifestations. Editorial (Medical Record, January 28, 1905).

TENDON REFLEXES, INCREASED, IN INFECTIONS.

The writer takes the view that the ideas concerning the significance of increased tendon reflexes in diseases other than affections of the brain, the cord or the nerves, are in sad want of revision. He has paid special attention to the hypertonia of infections and intoxications of various kinds, and while making allowances for the individual equation in observations, the following conclusions are drawn from experience in this field: In acute infectious disease (his observations included only typhoid fever and pneumonia) the tendon reflexes are often increased. This is not seen, however, throughout the entire course of these affections, and the occurrence of an epileptoid tremor is exceptional. The exaggeration of the reflexes usually is seen at the acme of the disease, and declines during convalescence. When this order is reversed and the reflexes are exaggerated during convalescence, the disease is apt to assume a severe form and complications are apt to arise. There is no relation between the exaggeration of reflexes and the fever, and the former has no diagnostic significance whatever. Acute alcoholic, uræmic, and acetonæmic intoxications are followed by increased reflexes, an exception being the acetonæmia of diabetes. In about two-thirds of all the cases of chronic affections of the liver and kidneys there are increased reflexes, and these are always associated with other evidences of toxæmia. In cardiac disease, exaggerated reflexes are more apt to be present in the arterial cases than in the endocardial, and in both types they are most apt to occur rather early in the disease. Increased reflexes are an important and often an early diagnostic sign of arteriosclerosis. The author regards this sign as an evidence of intoxication. R. Massalongo (Riforma Medica, December 14, 1904; from New York Medical Journal and Philadelphia Medical Journal, February 4, 1905).

THYROIDISM, ACUTE POST-OPERATIVE.

Acute post-operative thyroidism is very rare. Few cases are reported, and many possibly are unrecognized. All the cases cited by the author proved fatal except personal case and one other. The use of cactus grandifloris, never before recommended in cases of this or like nature seemed to be a great aid in bringing about a favorable termination. The peculiar pigmentation, following the turgescence and being different on the two halves of the body, is of interest in the author's case. A pulse of over 200 can be counted in thyroidism, because of the nature of the pulse. When the writer's patient presented herself for the first time, she was carefully examined to note all deviations from the normal of health. The most urgent trouble seemed to be chronic appendicitis. The writer cannot say at this time that she was then suffering from exophthalmic goiter—at any rate, as such it was overlooked. Her pulse was rapid, but not more so than is often found in patients having appendicitis, or in patients who are nervous. The pigmentation of the skin attracted the author's attention especially. He could not satisfy himself as to its origin or cause, but considered it of no special moment in reference to her need of an operation, or in regard to her being in a condition to undergo the operation. She had already undergone one operation a few months before. It was felt safe for her to undergo another, especially as the operation was necessary. Acute post-operative thyroidism is an exceedingly grave complication in patients calling for operative care, and we should ever be on our guard to recognize the presence of the condition which, if lighted up, will produce acute thyroidism. The symptoms of this condition most likely to be seen are *(a)* rapid pulse, *(b)* enlarged thyroid, *(c)* nervousness, *(d)* a marked tendency to blush, *(e)* prominence of the eyes, with *(f)* pigmentation or other alteration of the skin. S. E. Sanderson (American Medicine, February 4, 1905).

TONSIL, GROWTH OF BONE IN THE.

From a study of personal case, and of the cases reported in literature, the author is inclined to believe that the bone originates from metaplastic changes in the connective tissue, and not from the branchial arch, for the following reasons: At the time that the tonsil develops the branchial arch has disappeared. If the bone came from the arch, it should be uniformly distributed through the organ, and not confined, as it usually is, to the connective tissue. The natural sequence of development of osteomata is from connective tissue, through cartilage to bone. This process is clearly shown in the specimen taken from personal case. Analogy with other organs shows that cartilage and bone are frequently found in the connective tissue framework of such glands as the parotid, the mammary gland and the testis, when these have been subject to chronic inflammation. But since bone does not develop in every tonsil that has been subject to proliferative connective tissue changes, when it does occur some local predisposing tendency to its formation must be assumed. W. W. Carter (Medical Record, February 4, 1905).

TUBERCULOSIS OF THE LARYNX, TREATMENT OF, WITH SUNLIGHT.

Very favorable results were obtained in the treatment of tuberculosis laryngitis by the reflection into the glottis of sunlight by means of mirrors. The patient is seated with the back to the sun, and in front of him, about the height of the mouth, an ordinary toilet dressing mirror is affixed to a suitable standard, at such an angle as to throw the light directly into the pharynx. The patient pulls forward the tongue with one hand, and with the other manipulates a laryngeal mirror in such a way as to render the image of his larynx visible in the large mirror.

The best time for the treatment is early in the forenoon and late in the afternoon, as the sun's rays are more easily utilized when slanting, and it is desirable to eliminate the heat ways as much as possible. The patients soon learn the technique of the procedure and become much interested, as they are enabled to watch the improvement themselves. The length of each sitting varies from five minutes to an hour, according to the strength of the patient. The treatment is contraindicated in cases of œdematous swelling of the larynx, which appear to be unfavorably influenced by the heat rays. The author gives the histories of fourteen cases in which the treatment was found of marked benefit, and he believes that improvement follows this method more rapidly than any other form of treatment. Kunwald (Münchener medicinische Wochenschrift, January 10, 1905; from Medical Record, February 4, 1905).

TUBERCULOSIS, SUGAR IN.

A method which has given results far beyond expectation is the overfeeding of patients with sugar. Ordinary sugar is not only a promoter of heat, but also a dynamogenous food which is well adapted to the requirements of the cachectic consumptive. The authors recommend large doses, from 100 to 500 grams of sugar daily; in other words, from 5 to 12 grams of sugar per kilo of body weight. The patients gain weight rapidly, in some cases faster than the actual weight of the sugar ingested would warrant. They never suffer from fermentation or other gastric complications. Sugar gives the best results in the febrile cases. It may be diluted with milk or disguised with coffee or bitter tinctures. Sugar diet is well borne by those tuberculous patients who are otherwise difficult to feed, and even by those who cannot take codliver-oil. R. Massalongo and G. Danio (Riforma Medica, December 21, 1904).

TYPHOID AND COLON BACILLI IN WATER, THE EFFICIENCY OF COPPER FOIL IN DESTROYING.

From experiments thus far conducted, the author draws the following conclusions: The intestinal bacteria, like colon and typhoid, are completely destroyed by placing clean copper foil in the water containing them. The effects of colloidal copper and copper sulphate in the purification of drinking water are in a quantitative sense much like those of filtration, only the organisms are completely destroyed. Pending the introduction of the copper treatment of water on a large scale, the householder may avail himself of a method for the purification of drinking water by the use of strips of copper foil about 3 $^1/_2$ inches square to stand over night, or from six to eight hours, at the ordinary temperature, and then the water drawn off or the copper foil removed. Henry Kraemer (American Medicine, February 18, 1905).

TYPHOID FEVER, TREATMENT OF.

In the treatment of no disease, unless perhaps it is pneumonia, is there such a variety as in that of typhoid fever—and yet at the same time in none is there greater monotony. Almost every physician who is called upon to see many cases of this disease, after trying various methods and testing one new or popular theory after another, gradually settles down into a more or less unvarying routine—not always to the advantage of his patients. But with most of us there is still an uneasy feeling that perhaps we are not doing the best we can for those who place their lives in our keeping, and for this reason perhaps there is nothing more interesting than to learn how others are doing and what success they are having.

Dr. F. Foord Caiger, who was the Bradshaw lecturer for 1904, took for his theme the treatment of typhoid fever, or enteric fever, as it is usually called in England. In his introductory remarks he referred to the fact that the case mortality of typhoid fever in England remains at a height of more than 15 per cent. The treatment of typhoid fever is necessarily conducted on one or two lines, viz., an active remedial method or a passive or so-called expectant method, each of which has its firm adherents. The three methods of treating enteric fever by means of remedies which are assumed to be capable of exerting a direct controlling influence over the natural course of the disease may be designated as the specific, the antipyretic, and the antiseptic, according to the nature of the agents employed.

The hope that the serum treatment of typhoid fever would prove as valuable as in the case of diphtheria has not been fulfilled. However, in this connection it should be mentioned that Chantemesse claims to have produced a serum, the nature of which is not known, the use of which in enteric fever is said to have met with remarkable success. Wright's method has also had some considerable degree of success.

An antipyretic effect may be produced either by drugs or by the direct application of cold to the body surface by baths, packs, sponging, etc., or by a combination of both. Quinine is undoubtedly the best drug for this purpose. It possesses a marked antiseptic influence over living cultures of the typhoid bacillus, and its administration is not attended with cardiac depression. For the purpose of lowering the temperature, quinine must be given in large doses—15 to 20 grains or more—twice in the twenty-four hours. Or a still better method is to give it in four 7 $^1/_2$ grain doses, repeated at intervals of fifteen minutes in the evening of every third day during the first fortnight of the fever. In cases of moderate fever, the writer does not favor the use of antipyretic drugs, at least in antipyretic doses. He believes such pyrexia to be a natural element of defense against bacterial invasion. In cases of excessive pyrexia, however, vigorous antipyretic measures are indicated. The cold bath is the most effective method of applying cold to the surface. Its contraindications are well known. It is probable that the cold bath owes its superiority over all other therapeutic measures of which the chief aim is refrigeration to its salutary influence on the nutrition of the skin and kidneys. The "graduated bath" has been widely recommended.

Although it is now recognized that any attempt to destroy the bacilli in the lower intestinal canal by the administration of antiseptic drugs by the mouth is futile, unless given in such doses or in such strength as greatly to injure the patient, still it is not unreasonable to expect that they might be capable of exerting some restricting influence on the multiplication of bacteria in the mucous membrane and contents of the bowel. This is positive in respect to the various putrefactive organisms, for there is a decided decrease in the fetor of the stools after the use of antiseptics. The writer calls attention to the good effects, in suitable cases, of calomel before there is much diarrhœa. But in certain cases, even when it is given not later than the end of the first week, it causes intestinal irritation which is prejudicial to the patient. The writer has been so impressed with the fact that he has given up the routine use of calomel in the early stage of typhoid fever, and limits himself to its use in cases in which there exists some special indication for this drug. Perchloride of mercury has been highly recommended as an intestinal antiseptic. Although Dr. Caiger believes that some of the antiseptic remedies distinctly influence in a favorable manner the course of an attack of typhoid fever, still he does not believe that they are capable of cutting short the attack or of lessening to any appreciable degree the risk of hæmorrhage, perforation, or relapse, as some have contended. He mentions some other antiseptic remedies, among which are sulphurous acid, oil of turpentine, the combination of quinine and nascent chlorine, and the essential oil of cinnamon. His results so far with the oil of cinnamon have been favorable. Among 147 cases, there was a mortality of 9.5 per cent. The temperature ran lower in these cases than the average in typhoid cases, the patients for the most part remained drowsy throughout their illness, thus enjoying mental rest, and delirium was less frequent. Intestinal decomposition was controlled in a striking manner, no single instance of meteorism occurring among the 147 cases in which this remedy was used. It is well, the author says, to begin with small doses, for example, $2\,{}^1/_2$ minims, increasing this to 4 or 5 minims in the course of a few days. Laboratory experiments with this oil have been likewise encouraging. In cases in which there is any suspicion of circulatory failure, he gives a grain of sulphate of quinine with each dose.

Dr. Caiger believes that the adoption of an entirely expectant treatment is not only fallacious in its conception, but very mischievous in practice. In the absence of a specific, he would treat a case of typhoid fever on symptomatic lines, and, in addition, would employ from the earliest possible date either antipyretic or antiseptic remedies, or both, as might appear especially suited to the attack and to the individual in question. In the treatment of toxæmia it is always well as a preliminary measure to rid the lower bowel of its putrid and offensive contents. Calomel is most effective for this purpose. Soap and water enemata, with the addition of turpentine, are also useful, as is the oil of cinnamon. The cinnamon treatment is also especially serviceable in cases with nervous manifestations. It is most important for the victim of typhoid fever to obtain mental rest. For this purpose opium is valuable. In ataxic cases, a combination of quinine and chlorine is excellent. In the treatment of pyrexia, Dr. Caiger much prefers the cold pack to the cold bath. If the effect of this treatment proves temporary, the pack should be repeated and sulphate of quinine, 15 to 20 grains, combined with 15 to 20 minims of laudanum, should be given. The administration of quinine usually prolongs the effect of mechanical refrigeration. In cases in which restlessness and insomnia do not yield to cold sponging, one of the numerous hypnotic drugs may be tried. If diarrhœa and abdominal pain are present, the preparations of opium are especially useful. If the number of stools exceeds more than four or five in the course of twenty-four hours, the diarrhœa should be controlled. If the feeding is not at fault, a starch and opium enema is indicated. Cold abdominal compresses are of value when definite tenderness exists. Constipation is well treated by a soap and water enema, not exceeding a pint, in the morning of every third day. In cases of cardiac failure, strychnine, quinine, or digitalis may be given. There are special indications for the employment of alcohol, but the lecturer thought that in most cases of enteric fever, alcohol is not only not required, but its employment is occasionally distinctly harmful. In cases of intestinal hæmorrhage, he said, that after having seen that the patient receives a full dose of opium and that an icebag is carefully applied to the abdomen, the treatment may be summed up in the simple word "precaution." The complete deprivation of fluids, except an occasional fragment of ice is most important in these cases. As to the management of perforation, the lecturer was in complete accord with those who hold that a moribund condition of the patient should be the only contraindication to operation in such cases. And as to the most favorable time for operation, "there is no time like the present." A careful examination of the abdomen should be made daily in the course of typhoid fever, as then any change in its condition will be more accurately perceived. Editorial (Medical Record, January 28, 1905).

TYPHOID FEVER, WATER-DRINKING IN.

Large quantities of water internally, a gallon or more in twenty-four hours, may easily be taken by typhoid fever patients, if administered in small quantities at frequent and definite intervals. A copious elimination of watery urine at once follows, the degree of polyuria, day by day, closely corresponding to the quantity of fluid ingested. Patients are more comfortable by this mode of treatment and toxic, nervous symptoms are lessened. The mortality, as well as the severity, of typhoid fever, seems to be still further diminished by this method of hydrotherapy employed as an accessory to the cool-bath treatment of the disease. E. F. Cushing and T. W. Clarke (American Journal of the Medical Sciences, February, 1905).

URETERS, OPERATIONS ON LOWER ENDS OF.

In favor of the use of a general anæsthetic it may be said that the patient is unconscious of everything associated with the operation, including the pain. There is complete relaxation, thus permitting a better exposure of the field of operation, which is especially desirable in operations in the pelvis. The operation takes a much shorter time than a similar operation under a local anæsthetic. The operation is easier, and all the above render it possible usually to do better work than under a local anæsthetic.

There are many disadvantages, however, in the use of a general anæsthetic. In certain cases it is contraindicated. A small percentage of the cases die on the table from the anæsthetic alone. In all cases it lowers the general resistance of the individual, thus predisposing the patient to many post-operative complications. The taking of the anæsthetic is usually very unpleasant, and the recovery from it still more so.

If certain operations do not cause any pain and very little discomfort, why should patients be subjected to the dangers and discomforts of a general anæsthetic in these operations? And if certain steps in a long operation, where a general anæsthetic is contraindicated, are painless, why not use a temporary general anæsthetic, such as nitrous oxide, or a local anæsthetic, as cocaine, *only* for that part of the operation which causes pain?

A knowledge of the distribution of the sensation of pain in the various parts of the body is not only interesting from a physiological standpoint, but especially valuable in the diagnosis of diseased conditions, and the *intelligent* use of a local or temporary anæsthetic in those cases in which a general anæsthetic is contraindicated.

Pathological conditions of the lower ends of the ureters usually impair the function of the ureters, either interfering with the passage of urine from the kidneys to the bladder or permitting a reflux of urine from the bladder into the kidneys. In either instance the result is interference with the function of the kidneys, and a condition of actual or unstable renal insufficiency results, thus lowering the general resistance of the individual, and, in addition, predisposing the kidneys to infection. The result of the above is that such individuals may not be well suited to a long operation under a general anæsthetic, which may be necessary to cure the local condition.

In four operations on the lower ends

of the ureters by the inguinal extraperitoneal route under local anæsthesia, lasting from four hours and thirty minutes to six hours and ten minutes, the only apparent effect of the operation, aside from postural discomfort and at times some pain (endurable), was that of fatigue, as of a similar length of time spent in a dentist's chair.

The success of these operations is dependent on a knowledge of what does and what does not hurt, and on proceeding slowly and carefully, remembering that *anything causing traction* on the *parietal peritoneum* is *painful.* Pinching, cutting, and suturing the ureter in these cases apparently did not cause any pain, and similar treatment of the bladder in one case was painless, but painful in another (bladder much thickened; chronic cystitis). Closing the abdominal incision was the most painful step in all four operations.

The extraperitoneal route is a very satisfactory way of reaching the lower ends of the ureters, and would be less painful than the intraperitoneal, and has many advantages over the other. The danger from infection is less; by draining freely, the retroperitoneal tissue is well protected and the intestines are kept back by the peritoneum, thus giving one a good exposure; and there must be less shock associated with the extraperitoneal than with the intraperitoneal operation.

Many incisions through the abdominal wall have been used for the extraperitoneal route, and the intramuscular incisions can be recommended as doing little harm, rendering the liability of post-operative hernia small, and affording a good exposure. *Two incisions are very good; a "gridiron incision" lateral to the rectus similar to the well-known McBurney, only a little lower; and, secondly, a longitudinal incision through the rectus muscle.* Through either incision the ureter can usually be exposed from the pelvic brim to the bladder, and if more room is desired, the muscles may be cut at any time. John A. Sampson (Annals of Surgery, February, 1905).

URETHRAL STRICTURE, TREATMENT OF.

The meatus must be cut to a caliber 2 millimeters larger than that of its normal urethra previous to properly carrying out any form of treatment. Internal urethrotomy yields the most permanent results of any method, and for strictures of the anterior urethra, irrespective of their character, is the operation of choice. All resilient, intractable, nondilatable, and impassable strictures of the bulbo-membranous or membranous urethra are best treated by external perineal urethrotomy. With the exception of these, all strictures so situated are best treated by gradual dilatation, unless, during its course, constitutional disturbances of importance arise, in which case it is safer to divide them at once by an external perineal urethrotomy. Divulsion and electrolysis are not methods to be commended. F. S. Watson (Boston Medical and Surgical Journal, December 8, 1904).

CORRECTION.

My attention has been called to a typographical error in my editorial on "Suprarenal Extract in the Treatment of Cardio-Vascular Disease," in the "Monthly Cyclopedia" for February, 1905, in which it is stated that 40 minims of a 1 to 1000 solution of adrenalin equals $\frac{1}{250}$ of a grain. It should read 4 minims.

JAMES TYSON.

A COURSE OF PUBLIC HEALTH AT THE UNIVERSITY OF PENNSYLVANIA.

A course of instruction in public health is to be offered by the University of Pennsylvania for the first time in the academic year, beginning October 1, 1905. The authorities of the University of Pennsylvania realize the efforts which are being made in communities throughout the country to obtain officials who have had some special training in matters pertaining to public health. Each year the demands for men of this type (either as chiefs of departments or in some subordinate position) is increased, and at the present time there is a lack of men qualified to fill such positions. To meet the needs of such instruction, the University will introduce into its curriculum, beginning October 1, 1905, a course in public health, which will include instruction under the following headings:—

Sanitary Engineering.—Including the subject of water supplies, sewerage systems, street cleaning, disposal of waste, etc.

Sanitary Legislation.—A study of the movement for sanitary reform, and of the laws enacted relating to public health, and the methods of enforcement employed in Great Britain and the United States.

Inspection of Meat, Milk and Other Animal Products.—The methods of preparation and preservation of the same, the conduct of dairies, creameries, etc., and demonstrations of the diseases of animals transmissible to man.

The Sanitary Engineering of Buildings.—Including demonstrations of systems of heating, ventilation, plumbing and drainage, the study of plans, etc.

Social and Vital Statistics in the United States.—An examination of statistical methods and their results, with special reference to vital statistics and to city populations.

Practical Methods Used in Sanitary Work.—Including water, air, and milk analyses, studies in ventilation and heating, investigation of the soil, methods of disinfection, sterilization, etc. (This is purely laboratory instruction.)

General Hygiene.—As applied to the community, including lectures upon the causation of disease—exciting and predisposing methods of prevention—including isolation, quarantine, natural and acquired immunity, protective inoculation, vaccination, and the antitoxic state, methods of house disinfection and the means employed, suggestions for the organization of sanitary work, the influence of water supplies and sewage disposal on the public health, etc.

Personal Hygiene.—Including the physiology of exercise, the adaptation of exercise to the various physical requirements, the use of exercise for the prevention and correction of deformities, the methods of examination and record keeping, the routine physical examination of growing children and the relation of air, food, bathing, etc., to health and development; the hygiene of the school room.

Book Reviews.

SURGICAL TREATMENT OF BRIGHT'S DISEASE. By GEORGE M. EDEBOHLS, A.M., M.D., LL.D. New York: Frank F. Lisieske, 1904. 320 Pages. First Edition.

Since Edebohls, some years ago, first proposed to treat chronic nephritis by removing the capsule of the kidneys, this subject has been widely discussed. He first observed the favorable effects upon the disease when it was found necessary to do a nephropexy. It has been suggested that a new capsule is soon formed from the remnants of the old one. This Edebohls acknowledges, but argues that the new is more succulent than the old capsule and always more vascular. He does not believe that there is any danger from the contraction of the new capsule, but should a return of symptoms justify a second operation, he does not hesitate to perform it.

The book forms one of the most elaborate treatises on this subject ever presented as the experiences of any one writer. The first part of the work comprises the author's contributions to the literature, which have previously appeared in the medical journals. The second part, three-fifths of the entire work, is entirely new and comprises the detailed histories of seventy-two cases operated upon by the author, and his conclusions.

The operation is charged with seven deaths, all in advanced cases, but this number, he claims, is offset by the nine patients who were moribund when operated upon, whose lives were prolonged and some of whom are alive at the present day and are voiding normal urine.

Of the twenty-two ulterior or remote deaths, none was due to the operation. Thirteen died from the chronic nephritis and its complications, and in six of these the operation had done no good, but the remainder were benefited. Of the seventy-two patients it appears that thirteen received no benefit from the operation, while fifty-nine received amelioration varying all the way from slight or temporary improvement to complete cure. In nine cases the operation proved life saving, by rescuing the patient from impending death. The author has successfully treated eclampsia by his operation. He believes that he has submitted sufficient evidence, not only to justify the surgical treatment of Bright's disease, but has established surgery to be at present the main, if not the only, hope of sufferers from a hitherto incurable disease. Whether other surgeons shall be rewarded by such favorable results remains to be seen.

The author has kept his patients under observation wonderfully well, and his book is an extremely interesting and a very valuable work, due to the fact that sufficient time has elapsed since operation to prove the value of his treatment.

It will probably be a long time before so many cases can be reported by any one surgeon. Medical men have been rather backward in recommending this operation, as other surgeons have not always met with the success of Edebohls. This is probably due to the fact that they have had but few cases, and these happened to be bad ones, operation having been resorted to as a last resort. M. B.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Annual Report of the Surgeon-General of the Public Health and Marine Hospital Service of the United States for the Fiscal Year 1904.——First Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. February 1, 1903, to February 1, 1904.——Transactions of the American Ophthalmological Society. Fortieth Annual Meeting. Vol. X, Part II. 1904.——Politics in New Zealand. By C. F. Taylor. 1904.——A Case of Tuberculosis with Some Unusual Points of Interest. By S. E. Earp, M.S., M.D., Indianapolis, Ind. 1905.——Management of the Acute Stages of Abdominal Inflammation. By G. E. Shoemaker, M.D., Philadelphia. 1904.——The Climate and Waters of Hot Springs, Va. By Guy Hinsdale, A.M., M.D., Hot Springs, Va. 1904.——New Etiology and Prophylaxis of Appendicitis. By A. F. A. King, M.D., Washington, D. C. 1904.——On Uniformity in Pelvic and Cranial Measurements. By A. F. A. King, M.D., Washington, D. C. 1904.——The Climate Treatment of Pulmonary Tuberculosis. By A. F. A. King, M.D., Washington, D. C. 1904.——The Treatment of Pneumonia. By R. S. Thornton, Deloraine, Manitoba. 1904.——Fistula in Ano in Phthisis and Actinomycosis. By Heneage Gibbes, Detroit, Mich.——Physometra; Pyometra; Hematometra. By E. J. Mellish, El Paso, Texas. 1905.——Nasal Deformities and Paraffin Prothesis. By A. C. Heath, St. Paul, Minn. 1905.——The Significance of Tuberculous Deposits in the Tonsils. By George B. Wood, M.D., Philadelphia. 1904.——Erotomania: A Case of Exhibitionism. A Medico-Legal Study. By David S. Booth, M.D., St. Louis, Mo. 1905.——Influenza a Toxæmic Disease. By A. B. Conklin, M.D., Ambler, Pa.——The Expectant Plan in the Treatment of Typhoid Fever. By R. E. Coughlin, Brooklyn, N. Y. 1904.——A Plan to Eradicate Syphilis, Chancroids, and Gonorrhœa. ' By A. W. Herzog, Ph.B., A.M., M.D., New York City. 1905.——Relevé Statistique de 500 Interventions Faites sur l'Apophyse Mastoïde. Annexé au Travail des Drs. E. J. Moure et A. Brindel, Paris, France. 1904.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

THE FUTURE OF DRUG MEDICATION.

THE ideal of medical practice would be prophylaxis in the widest sense, the family physician serving as a guide and instructor rather than as a prescriber of drugs. Since ideal conditions are rarely, if ever, attained, we and our successors must, in all probability, rely largely upon the action of medicines in the treatment of the sick, and we can affirm, with Shakespeare, that "by medicine life may be prolonged."

Nearly all drugs used by medical men may have unpleasant or injurious by-actions and after-effects, which detract from their direct curative value. A powerful remedy in the hands of a semi-educated or unwise practitioner is liable to do far more harm than good. With the exception of a very small number of specifics, drugs are certainly secondary in importance to a judicious hygienic and dietetic management of the patient, and to the therapeutic utilization of heat, cold, light, electricity, and manipulation.

The trend of scientific progress is nearly always toward simplicity. The intricate epicycles of Ptolemaic astronomy have given way to Newton's few and plain laws of motion and attraction. The principles of evolution are the warp and woof common to all living beings. The greatest inventions are remarkable no less for their simplicity than for their value to the human race.

So in the practice of medicine let us hope that the day is near at hand when we shall use fewer drugs and with greater wisdom. Are not a hundred standard medicines amply sufficient for our professional needs? In the human economy hydrochloric acid answers every practical object of a mineral acid. Sodium nitrite fulfills every vasodilator requirement, except when amyl nitrite inhalations are preferred for immediate and transient effect. Calomel, conjoined with a limited diet and colonic flushings, excels all other "intestinal antiseptics." Antipyrin (phenyl-dimethyl-pyrazolon) is an effective antipyretic, analgesic, antispasmodic, and hæmostatic.

It goes without saying that our medicines should be as definite in strength as possible, and hence the active principles (alkaloids, glucosids, etc.) are generally preferable where systemic effects are desired. When we compare the attractive, definite, and convenient medicaments of the present day with the crude muddy mixtures and nauseous draughts of the not remote past, we have every reason to felicitate both ourselves and our patients. That the achievements of synthetic chemistry are now only well begun, is certain. Our most cherished remedies may be made in this way in the future, and much more satisfactorily than they are now obtained from natural sources. An illustrative instance is the artificial product, methylaminoorthodioxyacetophenon, which is similar in properties and effects to the active chromogen principle of the suprarenal medulla. Probably the majority of prescriptions nowadays call for proprietary products. The number of these preparations is legion, and is ever increasing. A partial list, with chemic composition, compiled by me during the past year, comprises 530 different remedies. Many of these are convenient for dispensing and pharmaceutically elegant, and some are therapeutically valuable, but hardly any, if any, are indispensable to the scientific physician. The distinction made between definite chemic compounds and physic mixtures is not of much importance. The molecular formula given is unintelligible to most practitioners, and, on the other hand, some of our most trustworthy medicines, Dover's powder, for example, are mere mechanical admixtures. Objections to the medical patronage of proprietary products are their high price (one highly vaunted preparation sells at two dollars per grain); the routine and haphazard methods which their frequent use induces; and, above all, the growing tendency among the manufacturers of these drugs, foods, and devices to advertise directly to the laity encouraging self-medication. When certain patent medicines, advertised in the public press for a generation, are accepted as advertisements by reputable medical journals, the practical difference between proprietary and patent medicines becomes even less appreciable.

Novelty has always a certain attractiveness, even when it consists merely in the name, as exemplified by the many changes rung upon hexamethylentetramin and solutions of formaldehyde. Hence, before we have mastered the clinical use of one remedy, we are tempted to try another recommended for the same purpose, and probably neither better nor worse.

It is true that, except where a psychic effect is desired, the question of palatability is of considerable consequence. In the case of nauseous powders and liquids capsules afford a ready means of obviating the disagreeable taste. Compressed tablets, let us say of salicylates, quickly washed down with water, leave scarcely any taste behind, and are usually sufficiently soluble in the alimentary tract. A peppermint lozenge, a slice of orange, a sip of coffee, or a salt wafer, following a dose of codliver-oil, makes the oral savor normal again. Such simple measures are generally as efficient in promoting eugeusia as more ambitious pharmaceutic attempts.

The questions of dosage and frequency of administration of drugs have not been worked out to very definite conclusions. In giving arsenic, for example, shall we begin with the maximum dose and gradually diminish, or shall we commence with a minimum dose and slowly increase the amount until physiologic symptoms arise? In the administration of laxatives, shall we give an anti-constipation granule every hour throughout the day, or one full dose at bedtime of the drug or drugs selected?

Concerning quantity, it appears to the writer that we should give whatever dose is needed in the individual case, ranging from a placebo effervescent lithium tablet in a glass of much needed water, to an ounce or more daily of potassium iodide in cases of cerebral syphilis. When the condition requires, medicines, like the surgeon's instruments, should be used fearlessly, but with precision.

Above all, the medicaments and the mode of treatment should be adapted as closely as possible to the patient's condition, as it varies from day to day, with special reference to the emunctories and the vasomotor system. The nature of the disease is mainly a matter of prognosis and prophylaxis. The state of the pulse, aeration, elimination, and cerebration are of vital importance. We should aim to stimulate or to moderate functions, rather than open up our pharmaceutic batteries upon imaginary disease entities comparable to the demons of the ancients.

Medicinal agents acting locally or reflexly have the advantage of producing hardly any objectionable by-effects, and I think that their use should be extended. A mustard paper or an ice-bag on the epigastrium relieves nausea and vomiting more certainly than internal remedies. The nasal douche followed by the instillation of a bland oil is about the best treatment for the nocturnal throat coughs of children. Steam inhalations with terebene are very effective in the winter cough of chronic bronchitis.

How often to use our remedies is a question for every doctor with each patient. It is generally accepted that small doses frequently repeated are best in the acute diseases of children, and perhaps in such severe conditions in adults every hour or two is not too often to disturb the patient with food or medicine. Even in chronic cases one cannot deny the suggestive benefit of frequent medication. But here it is generally impracticable, and one must also doubt the wisdom of maintaining a constant tension or irritation through the use of drugs. Nature is highly rhythmic, and we should seek to imitate her undulations. A single large dose of digitalis at each bedtime has often seemed to me to yield the best results in many cases of cardiac defects.

In conclusion, we can hardly hope that therapeusis will keep pace with preventive medicine and with surgical progress as long as it is so largely on an empiric basis. When we know the precise effects of any drug, then we can employ it with equal confidence and satisfaction. The science of the underlying physics and chemistry of drug action is barely risen, but already it sheds light in dark places. Take digitalis, for example. As Sajous has shown, this drug calls forth in greater quantity the adrenal secretion, which is directly responsible for the tonic action on the cardio-vascular system. Vasomotor tension from digitalis is therefore allied to the high tension pulse of kidney disease, due to oversecretion from the suprarenal glands, owing to irritation by contiguous inflammation; and when this tension is excessive (above 140 millimeters of mercury), either in renal disorders or from the administration of digitalis, it should be lowered by the use of aconite or sodium nitrite.

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PERICOLITIS SINISTRA.[1]

In the following brief remarks attention will be specially called to a group of cases, examples of which, not being particularly rare, have probably occurred in the practice of most medical men. Apology is perhaps needed for the title, though it is not mine, but it has the advantage of describing both the nature and the position of the morbid process. In order to indicate the nature of the cases here grouped together it may at once be stated that the condition is like appendicitis or, rather, for the most prominent feature in both is the involvement of the visceral peritoneum, perityphlitis; only it is on the left instead of on the right side of the abdomen.

The cases here grouped together may, like perityphlitis, give rise to different conditions; thus there may be (1) local peritonitis of comparatively slight intensity around the descending colon or the sigmoid flexure; (2) a local abscess in connection with the descending colon which may eventually burst into the general peritoneal cavity and set up (3) general peritonitis.

1. In the commoner and less severe form the clinical features are often spoken of as fæcal accumulation or impaction and have been described as sigmoiditis or perisigmoiditis. Bittorf[2] described four cases as acute circumscribed sigmoiditis, but since the process is not necessarily confined to the sigmoid flexure the inclusive term of pericolitis sinistra is perhaps more suitable. Hemmeter,[3] however, gets over the difficulty by describing the cases included in the group as sigmoiditis and pericolitis.

The clinical manifestations are briefly as follows: After constipation of some duration the patient experiences pain in the left iliac fossa, usually has a somewhat raised temperature, and may vomit. On palpation there are deep tenderness, muscular resistance, and a more or less cylindrical tumor palpable in the left iliac fossa, features which suggest appendicitis on the left side. Leucocytosis and indicanuria have been noted in some instances (Bittorf). The following is a case of this category:

Case I.—A man, aged 23 years, was admitted into St. George's Hospital under my care on August 18, 1904, with acute rheumatism. It is noteworthy that he had been in the hospital with a previous attack of rheumatism also complicated by abdominal manifestations, similar to those described below, in 1902. As the result of treatment the temperature rapidly fell, but after his bowels had been obstinately confined for four days he was seized with abdominal pain in the left iliac fossa, where there was much resistance and an oval patch, three by two inches, of hyperæsthesia. There was no tenderness or pain in the right iliac fossa. The abdomen moved badly and the patient lay with the legs drawn up. Next day the pain was worse and vomiting occurred twice, the pulse was 92, and the temperature was 101° F., but the latter was probably due to a relapse of the rheumatic pains and not to the abdominal condition. On the following day, after the bowels had been freely open, as the result of enemata, the abdominal pain diminished, and after this, the bowels being kept regularly open, the abdomen became natural.

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[1] A paper read before the Medical Society of London on March 27, 1905. (To be published simultaneously in London Lancet of April 1st.)

[2] Bittorf: Münchener Medicinische Wochenschrift, 1904, S. 147.

[3] Hemmeter: "Diseases of the Intestines," vol. i., p. 504, 1901.

The symptoms are relieved by removing the fæcal accumulation, preferably by repeated enemata at first, and then by purgatives such as castor-oil. For the pain Hemmeter recommends an ice-bag in the early stages, followed, if swelling persists for four days, by hot poultices.

I have no data from my own experience to bring forward as to the morbid changes in these cases; it might *a priori* be supposed that fæcal accumulation gives rise to inflammation of the mucous membrane and other coats of the colon, and so by extension to local peritonitis, and that the process is much the same as that described by Mr. W. Arbuthnot Lane[4] in the ascending colon as the result of chronic constipation. Pal,[5] however, regards the lesion as a primary circumscribed inflammation of the mucous membrane of the colon and not as a pericolitis. Rixford[6] has recorded two cases, allied to this class, in which inflammation of an appendix epiploica was due to infection conveyed from a neighboring false or acquired diverticulum of the colon. In his cases the inflamed appendices epiploicæ were palpable as tumors, of the size of a walnut in one case and of a hen's egg in the other, and were removed. It does not appear that there were abscess cavities in the inflamed appendices epiploicæ as there were in Mr. J. Bland-Sutton's[7] cases of fæcal abscesses in appendices epiploicæ, due to the passage of small but sharp foreign bodies from the colon into the appendices epiploicæ. Rixford's cases suggest that inflammation extending from a sacculus of the descending colon may be the cause of the pericolitis. This explanation would be compatible with the absence of diarrhœa which ordinary inflammation of the mucous membrane of the surface of the descending colon would probably tend to set up, and also with the undoubted fact that pericolitis only occurs in a very small percentage of individuals with chronic and obstinate constipation. In fact, necropsies show how rarely adhesions around the sigmoid flexure and colon are set up by constipation alone. Marked sacculation of the colon is by no means constant in constipation and it is conceivable that it is only in those cases in which sacculation is present that the conditions favorable to the development of pericolitis are satisfied. It is highly probable that this condition may pass into that of the second category in which there is a localized abscess in connection with the colon.

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[4] Lane: The Lancet, 1903, vol. ii., p. 1673.

[5] Pal, quoted in Nothnagel's "Diseases of the Intestines and Peritoneum;" American Translation, p. 930.

[6] Rixford: California State Journal of Medicine, October, 1904, p. 296.

[7] Bland-Sutton: The Lancet, 1903, vol. ii., p. 1148.

2. *A localized abscess* in connection with perforation of a stercoral ulcer, either in a false diverticulum or in the wall of the colon, may be either intra or extra-peritoneal, and in both cases may extend widely along the side of the colon, thus resembling the spread of an appendicular abscess. The method of formation of this form of pericolic abscess is analogous to that of a localized abscess above a malignant stricture of the bowel. It appears probable from a case recorded by Mayor[8] that a pericolic abscess due to perforation of a stercoral ulcer may discharge into the colon by ulcerating the coat of the colon from without (exogenous ulceration). A fistulous communication between the bowel and the urinary bladder may also be set up. The clinical features of a pericolic or perisigmoid abscess may be difficult to interpret correctly, especially when no definite swelling can be felt and the diagnosis of carcinoma of the colon is very likely to be made when a mass is palpable.

The two following cases illustrate the formation of intra and extra-peritoneal abscesses respectively in connection with stercoral ulceration of diverticula in the descending colon.

Case II. *Intraperitoneal Pericolic Abscess.*—A woman, aged 71 years, who had had a femoral hernia for many years, was attacked with diarrhœa a month before her death and subsequently had abdominal pain followed by increase in size of the hernia and vomiting. Herniotomy was performed in St. George's Hospital, but it did not appear that there was any strangulation of the bowel. Death occurred a few days later. At the necropsy there was an intraperitoneal abscess to the outer side of the descending colon, the boundaries of the abscess being the descending colon, the abdominal wall, and some coils of the jejunum. There was no general peritonitis but the abscess extended down along the side of the descending colon into Douglas's pouch. The part of the colon in immediate contact with the abscess was œdematous, inflamed, and dilated. The sigmoid flexure was contracted and showed a number of false diverticula, many of which contained rounded fæcal masses. The intraperitoneal abscess was due to perforation of a false diverticulum in the descending colon. No other cause for peritonitis could be found. The vermiform appendix was partially obliterated, but otherwise normal. There was a remarkably good pulsion diverticulum of the lowest part of the pharynx; it is interesting to note this association of acquired diverticula of the colon and of the pharynx.

Case III. *Retroperitoneal Pericolic Abscess.*—A woman, aged 47 years, was admitted, under the care of my colleague Dr. F. G. Penrose, who has kindly allowed me to mention the case, to St. George's Hospital on November 26, 1903, with abdominal tenderness and pain, flatulence, and sickness. These symptoms had been gradually coming on for eighteen months but had been more marked for one month. For nine days there had been thrombosis of the veins in both legs. On admission there was abdominal swelling rather suggesting ascites with dullness in the flanks, especially on the left side. On November 30th the patient suddenly became much worse, the abdomen became distended, and the temperature, which had never been below 99° F., touched 102°. This was succeeded by diarrhœa and pain in the left flank. The patient remained very ill and a tumor was felt on the left side which was thought to be connected with the pancreas; on December 18th pleural friction was detected over the base of the left lung, and on the 22d death occurred, preceded by delirium. The necropsy revealed a large retroperitoneal abscess on the left side extending from the brim of the pelvis to the diaphragm containing pus and clay-clored fæces. The descending colon showed toward its lower end three deeply excavated ulcers, two of which opened into the abscess cavity; one of the latter was at the tip of an acquired directiculum.

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[8] **A. Mayor: Revue Médicale de la Suisse Romande, tome xiii., p. 421, 1893.**

If the presence of an abscess is reasonably certain it should be opened. A fæcal fistula, however, may be expected, and in a case of Georgi's[9] fatal peritonitis followed exploratory laparotomy on an abscess close to the sigmoid flexure and due to perforation of a diverticulum.

3. Lastly, rupture of a circumscribed pericolic abscess into the general cavity of the peritoneum may occur and set up fatal perforative peritonitis as in the following case:—

Case IV.—A man, aged 52 years, was admitted into St. George's Hospital under my care on August 14, 1904, moribund; from his condition and the history obtainable it was surmised that there was acute perforative peritonitis supervening on chronic obstruction probably due to carcinoma of the colon. At the necropsy there was general peritonitis due to leakage of an abscess situated behind the junction of the sigmoid flexure and the descending colon. There were a number of stercoral ulcers in the sigmoid flexure, one of which led into the abscess cavity. There was no new growth in the abdomen and the appendix was healthy.

Stercoral or other kinds of ulcers, such as those due to dysentery, either in false diverticula or in the mucous membrane of the colon, may of course perforate directly into the general peritoneal cavity and set up diffuse peritonitis. Beer[10] quotes four cases of perforation of a false diverticulum into the general peritoneal cavity.

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ALBUMIN IN THE URINE OF APPARENTLY HEALTHY CHILDREN.

It is well known that albumin is not infrequently found in the urine of those children who are apparently healthy, at least in whom we cannot demonstrate the presence of any disease *per se*. Jackson[1] observes this to occur after cold baths;

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[9] Georgi: Deutsche Zeitschrift für Chirurgie, Band lxvii., p. 5, 1903.

[10] E. Beer: American Journal of the Medical Sciences, vol. cxxviii., p. 142, July, 1904.

[1] British Medical Journal, 1873. Quoted by Landon Carter Gray, American Journal Medical Sciences, October, 1894.

the Germans have noted it in the new-born,[2] and Dohrn in children and young people.[3] I confess that we are at a loss to correctly interpret these findings, in the light of our present knowledge, in children who present no cardiac or arterial lesions characteristic of nephritis and in whom the arterial pressure is normal; we, of course, do not regard the transient presence of albuminuria as evidence of nephritis. Many times has Keating discussed this problem with me, and during the latter years of his life our conclusion was that the growing kidney occasionally secretes a urine containing both albumin and epithelial cells when, so far as our methods of precision would take us, we were unable to say that either the cardio-vascular or the renal apparatus was organically at fault. The future has shown we were probably correct, as some of these children whom Keating and myself then studied are now adults between 25 and 30 years of age, members of families with whom I am personally familiar. They are now healthy men and women without demonstrable renal or cardiac disease.

We believe that in those cases which will eventuate in demonstrable pathologic lesions the cardio-vascular changes become recognizable very soon after the albumin is detected; indeed, in many instances the cardiac and arterial changes precede the renal alterations. This is as true in the child as in the adult.

We sometimes asked ourselves whether albumin would not be found from time to time in the urine of every growing child if our tests were delicate enough and our methods sufficiently exact. This should offer a tempting field for the younger investigators.

Albuminuria then appearing in those in whom there are no demonstrable lesions in infancy, childhood, adolescence, or later life, would seem to be of a different character from the albuminuria of Bright's disease. This is in accordance with Semmola, of Naples, who for more than thirty-five years has claimed that the albumin in Bright's disease is a different form of albumin from that occurring in other lesions.

This, of course, opens up too large a discussion for the present communication; we must refer to the researches of Meissner, Brücke, Schützenberger, Kuhne, Neumeister, Chittenden, Croftan, Stewart, and others. Suffice it to say, however, that there seems to be no question at the present day that different albumins appear in the urine. Upon the recognition of these depends the diagnosis of nephritis from other diseases.

Many cases may excrete abnormal amounts of the terminal products of nitrogenized and hydrocarbonaceous metabolism appearing in those not the subject of either renal or cardio-vascular change. I do not wish, however, to convey the idea that it is our opinion that the abnormal urinary products are always due to faulty food supply. In some of these children we thought that perhaps an unstable nervous system was responsible for the albuminuria, the altered metabolism. Others we have come to consider among the class that Goodhart so aptly terms "a queer lot," that is, the offspring of those whose nervous systems are feeble, or diseased, or who are closely related to, or have themselves been the subjects of fits, hysteria, neuralgia, rheumatism, convulsions of infancy, passionateness, morbid timidity, or chorea.

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[2] Virchow's Ges. Abhndlug., 1856.

[3] Dohrn, Monat f. Geburtsch., Bd. xxix.

A number of these cases of albuminuria without renal lesions come to California every winter sent by their Eastern physicians with a diagnosis of renal disease. These are the children who improve so quickly in this climate and who return in a short time to their homes, perhaps without albumin in the urine, with increased blood supply, and with all the appearances of good health. This encourages the medical man to think that he has saved the child from kidney disease, when a more careful study of the case would have placed it in its proper category of transitory albuminuria without demonstrable lesions.

The frequent presence, I may almost say normality, of the appearance of nucleo-albumin in the urine in amount which reacts to test solutions containing tannin, mercury, or a vegetable acid, must never be forgotten. This applies to some of the most popular tests, as Tanret's, Millard's, Sebelein's, and even to Spiegler's and Jolles, so recently commended in the Journal of the American Medical Association, December 3, 1904.

Three reagents now much in fashion will also often prove fallacious in this respect, namely, picric acid, particularly the citrated solution; metaphosphoric acid, and trichloracetic acid.

D. D. Stewart, of Philadelphia, it was, I think, who about ten years ago pointed out that a reaction could often be obtained with the urine of the healthy; that unless this was remembered it would be infinitely better to depend upon the less misleading, if less delicate, tests which time has proven to be reliable. After all said and done, boiling and the addition, if necessary, of acetic acid is still the most reliable test, because the substance reacting to the more delicate tests is apt to be a mucoid body originating in all probability from the cellular elements of the extra-renal passages, as Stewart has told us, or a nucleo-albumin.

In conclusion, before sending these little patients so far away from home it would be well to determine absolutely whether the urine contains serum albumin, serum or para-globulin, nucleo-albumin from bile, mucin from bile, or mucin from mucous membrane, albumoses, or the so-called urinary peptones. It is well to further remember that serum globulin is almost always found in the urine which also contains serum albumin. If the contrary obtains the probability is that not serum globulin, but nucleo-albumin, is present. Again must be remembered the frequent association of serum albumin with a mucinuria, that is, a nucleo-albuminuria and a serum albuminuria.

To repeat, then, the old-fashioned test by boiling is still the most reliable one for serum albumin. The two principal fallacies in this test, besides those so well known, are: first, the reaction of nucleo-albumin after cooling, and second, an excess of earthy phosphates in strongly nucleous albuminous urine.

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THE PRACTICAL UTILITY OF THYROID EXTRACT IN PUERPERAL ECLAMPSIA.

The relief of puerperal eclampsia has hitherto proved unsatisfactory owing less to obscurities in its pathology than inadequacy in our knowledge of principles whereby the effects can be controlled. To quote from the most recent text-book on practice in our possession (H. A. Hare): "The pathology (of puerperal eclampsia) is not understood. Without doubt the condition is toxic; in some instances it is probably due to perverted functional activity, or actual disease, of the kidneys. In other instances it seems to be dependent upon perverted metabolism."

Acting on the assumption that toxins circulating in the blood-stream are directly at fault, hypodermoclysis has been largely employed with a view to washing these out, stimulating elimination, and sustaining the circulation. Surgeons have made most use of hypodermoclysis of normal salt solutions, but the field of this remedy, or procedure, in medical conditions is as yet only suggested. Sajous has pointed out the importance of supplying the lost plasmatic salines, and in a future paper the author will endeavor to show the practical importance of supplying to the system depleted of its normal saline constituents these needed elements. This can be done by oral administration as well as per rectum or by hypodermoclysis. The subject is alluded to here to show that, as an adjuvant to more specifically needed elements such as the organic extracts, it enormously enhances the action of whatever else is imperatively demanded.

The secretions of noble glands, constituting the chief regulative essences, the protective processes of the body, often fail of their effect from various causes. The effects of disease is to impair the oxygen-carrying power of the blood plasma, to depress the normal action of the fluids and cellular elements, leucocytes, the erythrocytes as well as the general protective center of the body, the anterior pituitary body and its cocenter, the posterior pituitary body. "It is only when the alkalinity and fluidity of the blood-plasma are approximately normal that all cellular elements of the organism can continue their function" (Sajous).

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He has further pointed out that the phenomena of eclamptic states are analogous to a defective action of the thyroid gland, since lowering of the activity of the thyroid gland lowers, in corresponding degree, all oxidation processes. Convulsions are thus ascribable in his opinion to toxic wastes in the plasma, poisoning the nerve cells, etc., which excessive over-activity of the pituitary body, by inducing general hyperoxidation, especially in the muscles, met curatively, *i.e.,* by enhancing all the auto-protective functions of the body.

The avidity of the tissues for oxygen is such that it practically depletes of this gas, not only the red corpuscles, but the plasma as well. Thyroid extract increases the absorption of oxygen and the proportion of carbonic acid excreted; it also increases the excretion of the end products of metabolism. A number of cases have already been reported in which the convulsions ceased when under the influence of thyroid extract, and when the oxidation processes were brought to a sufficiently high level. Thus is the blood purged of its toxic properties; through increased tissue respiration they are made into benign eliminable products, the spasmogenic poison is thus overcome by the protective element of the organism, a product of one of its chief ductless glands, "and this applies to any form of convulsion, whether it be due to accumulated waste products or to a specific toxic; whether, in a word, it occur during puerperal septicæmia, epilepsy, hydrophobia, or tetanus" (Sajous). The remedies commonly employed, those which, like the bromides and chloral, are depressants of temperature (H. C. Wood, Richardson, Hammerstein, etc.), drugs which, by reducing the excitability of the motor elements, simply favor the accumulation of the spasmogenic toxics by inhibiting the oxidation processes through which these are destroyed, and augment the chances of a lethal result.

Clearly such measures or medicines are indicated as can be relied upon to increase the functional activity of the adrenal system; to do what the use of thyroid extract achieves after removal of the thyroid gland.

"Nicholson has not only found that in puerperal eclampsia the normal enlargement of the thyroid—to which Lange called attention after examining 133 women—which betokens increased functional activity, was not present, but that the nitrogenous metabolism was lowered. He obtained excellent results by the use, with pure milk, of 7 $^1/_2$-grain doses of thyroid extract every three or four hours, and morphine (a drug which in therapeutic doses stimulates the adrenal system) as an adjunct. Now, if the adrenal system is involved in such processes, its general center, the pituitary body, should give evidence of excessive activity. In 1898 L. Comte examined the pituitary body in a number of women who had died during pregnancy, and found not only that this organ was hypertrophied in every case, but that the anterior lobe was alone the seat of the hypertrophy. P. E. Launois and P. Mulon recently examined histologically the pituitary of two eclamptic women, each aged about 30, and were brought to conclude by histologic examination that during pregnancy the pituitary body gives evidence of marked overactivity. This exemplifies, it seems to me, the condition involved in all toxæmias attended with convulsions. The increasing tendency to use iodine, mercurial inunctions, and other agents which tend powerfully to increase oxidation and general metabolism by enhancing the functional activity of the organism's protective system, seems to me, therefore, to merit encouragement" (Sajous).

As sustaining these postulates the following cases are cited:—

"Baldowsky, W. G. (Vratch., vol. ii, 1904; and Australasian Medical Gazette, January 20, 1905) has confirmed the value of thyroid extract in two cases. In the first case, fits came on in a multipara at the seventh month of pregnancy, and 18 grains of thyroid extract was given. The fits ceased. The thyroid was continued for two days longer—10 grains daily—and the patient seemed quite recovered. A fortnight later, however, she again developed severe eclamptic fits, sixteen seizures altogether, which were treated by thyroid extract, with narcotic remedies in addition, and recovery followed. The other case was that of a primipara at term, who was suddenly seized with eclamptic convulsions at the commencement of labor. Thyroid alone was given, and the attacks ceased before rupture of the membranes. The labor took place without any unusual symptom and the puerperium was normal."

It may be remarked that the saline supplement need not be introduced directly into the circulation, but can be supplied by the mouth. A convenient method I myself employ is to use the tablets for saline infusion, made by several of the manufacturing chemists, the formula of G. R. Fowler, or Trunecek, or Leopold Levi, and place one or more of these into a half-gallon bottle of pure water, to which it gives little or no taste, and direct the patient from the outset of the disease to drink at least a glassful four or five times daily, in acute cases not less than every three or four hours. If the condition be urgent then hypodermoclysis or enteroclysis affords a prompt and powerful means of administration.

J. Madison Taylor.*

Cyclopædia of Current Literature.

ABDOMINAL INJURIES.

Any injury to the abdomen may be associated with damage to the intestine or other viscera. An exploratory operation is justifiable in cases with distinct rigidity. An operation is absolutely indicated when there is, besides rigidity, pain, tenderness, vomiting, shock, dullness, or other symptoms indicative of some intra-abdominal disturbance. Cases not operated upon are lost. The importance of early operation cannot be emphasized too strongly. At present the death-rate is about 75 to 80 per cent.

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When a greater proportion are operated upon early, the death-rate will be much lower. C. P. Flint (Medical Record, February 18, 1905).

ACNE AND ITS TREATMENT.

Acne is even commoner than eczema, and while it is true that the disease is often stubborn, the majority of cases can be greatly benefited in a short time, and very many of them cured promptly. The indications for treatment are as follows: The condition of the skin should be improved so that it will no longer be a suitable culture ground for the bacillus. The follicles of the skin should be emptied of the colonies of bacilli. The skin should be constantly kept aseptic so that any bacilli that escape on it will be killed, and no new infection of the skin will be possible. The first indication is met by attention to the patient's general health by means of baths, diet, exercise, attention to hygiene, and lastly, drugs. The follicles are emptied by the use of the curet, the acne lancet, and the comedo expressor. The best local application is sulphur, preferably in the form of the old Lotio Alba, the formula for which is: Zinc sulphate and potassium sulpheret, of each, ʒi-ij; rose water, q. s. ad ℥iv. This is to be shaken up before using. Resorcin is also useful, as well as sulphur soap. The use of the Roentgen ray should be limited to intractable cases, and requires great caution to prevent doing harm. G. T. Jackson (Medical Record, March 18, 1905).

ADENOID VEGETATIONS, THE CURE OF EXOPHTHALMOS AND CHOREA BY REMOVAL OF.

The writer agrees with Bamberger, Moebius, and other authors in believing that exophthalmos alone, if not due to mechanical causes, is sufficient ground for making the diagnosis of Basedow's disease. He describes two cases of exophthalmos which were completely relieved by removal of adenoid vegetations. The first case was that of a boy of 7 years, with well-marked exophthalmos, accompanied by both Graefe's and Stellwag's signs, and who further presented the clinical picture typical of adenoids. Ten days after removal of the pharyngeal tonsil the exophthalmos had completely disappeared. Two years later the patient reappeared with a return of all his symptoms, as a recurrence of the adenoids was again accompanied by bilateral exophthalmos. Radical extirpation of the vegetations was followed by permanent cure of the ocular protrusion.

The second patient was also a boy of the same age, who, in addition to adenoids and exophthalmos, suffered from hypertrophy of the tonsils. Amputation of the latter structures was not followed by improvement in the exophthalmos, but a week later the adenoids were removed, and in the course of the next two weeks the exophthalmos disappeared completely. The author is of the opinion that Basedow's disease represents an intoxication of the central nervous system through abnormal internal secretions, and that adenoid vegetations are capable of evoking the malady. Epilepsy and chorea probably have some etiological similarity to Basedow's disease, and the author thinks that they also may be produced by the presence of adenoids. An illustrative case is cited in which clearing of the nasal pharyngeal space in a boy of 7 years was followed by the cure of a well-marked chorea minor. It therefore appears advisable to look for adenoids in all cases of these three diseases, and to remove them, even if there is no respiratory obstruction. Holz (Berliner klinische Wochenschrift, January 23, 1905).

ALBUMINURIA DUE TO PALPATION.

The prompt reaction of the kidneys to circulatory disturbances has long been known, and albuminuria of a transitory character dependent on such changes is not infrequently seen. It has also been shown experimentally that thoracic compression, general or confined to the lower thorax, and general abdominal compression will cause transitory albuminuria. That direct manual compression of the kidneys may, under certain circumstances, cause albuminuria has not been so widely recognized.

Schreiber (Zeits. für klin. Med., p. 55) has recently called attention to this form of albuminuria, which he characterizes as renal palpatory albuminuria. It was first described by Menge in 1880, but its clinical possibilities do not seem to have been appreciated at that time. Schreiber restudied the phenomenon, and endeavored to find out how normal and movable kidneys reacted under palpation. Dividing movable kidneys into three grades, according to the classification suggested by Hilbert, he found that in the medium and severe grades palpation was always followed by albuminuria, and in the mild grades palpatory albuminuria was almost constant.

The degree of albuminuria varied in different cases, and did not necessarily correspond to the grade of dislocation, to the palpability of the kidney, nor to the duration of the palpation, as might have been expected *a priori*. In 41 cases in which albuminuria was present, there was only a trace in 14, while in the other 27 the amount varied from a slight flocculent precipitate to 3 per mille by Esbach's method. The duration of the albuminuria was usually very short, and in this it differed from the albuminuria of organic disease. Schreiber states that the urine should never be examined later than ten minutes after the palpation has been done, as in one of his cases the albumin had disappeared after twelve minutes. In some cases albumin was still present two hours after the palpation, but such cases were exceptional.

The urine generally showed physical and microscopic changes when albumin was present. After palpation it was often lighter in color than previously, and in some cases an excess of phosphates was present. The microscope always showed an increase in the epithelial cells, and frequently red blood-cells and leucocytes were found. The leucocytes were generally partly polynuclears and partly mononuclears, but in one or two instances were almost entirely lymphocytes. In no instance were true casts found, though occasionally pseudo-casts were present.

Schreiber discusses various possibilities regarding the origin of the albumin. It cannot be due, he thinks, to actual injury to the kidney tissue, for it is too transient, nor can it be due to injury of the vessels with rhexis, because red blood-cells are not constantly present. He inclines to the belief that a variety of factors are concerned, and he cites, as the most important, pressure of blood-serum from the blood-vessels, pressure of lymph from the lymph channels and changes in the blood-pressure. The not infrequent presence of blood-cells shows the likelihood of the first cause, the occasional exclusive presence of lymphocytes the second, and the fact that the albuminuria is at times out of all proportion to the intensity of palpation the third.

Schreiber also discusses the effect on the kidney of indirect compression such as is exerted on the kidney in palpating the liver. He also cites cases to show the value of the procedure in dystopia of the kidney and in doubtful abdominal tumors. So far as indirect palpation is concerned he comes to the conclusion that it very seldom produces albuminuria, and when it does the albumin is very slight in amount. His cases demonstrate that palpatory albuminuria may be of distinct value in differentiating obscure abdominal tumors. He suggests that in some cases the use of his method may obviate the necessity of more serious procedures, such as catheterization of the uterus, or exploratory laparotomy. Schreiber does not claim marvelous results from his method, but simply regards it as an aid to other methods which at times may be of value; as such it is worthy of extended trial. Editorial (Journal of the American Medical Association, February 4, 1905).

ALCOHOLISM, BORDERLINE PSYCHOSES OF.

From a study of several hundred cases of minor psychoses of alcoholism, including the "polyneuritic psychoses," marked by amnesia, paramnesia, and confusion with marked hallucinations, the writer was led to the following conclusions regarding these mental disorders: They are rare in acute alcoholism, but may appear in adolescents of neurotic type. They are more frequent after adolescence and up to 40 or 45 years of age. They occur both in continuous drinkers and in periodic delinquents. The prognosis is variable, depending on inherited frailties and moral development.

Early treatment is advisable as a prevention of major psychoses. The treatment is successful in the majority of cases, providing the earnest co-operation of the patients can be obtained, and that they can be had under the physician's immediate care for a protracted period. Such cases should be distinguished from ordinary chronic alcoholics and should be treated from the standpoint of mental disease. F. P. Norbury (Journal of the American Medical Association, March 18, 1905).

APPENDICITIS, TREATMENT OF.

Purgatives should never be given in acute appendicitis before operation. Ochsner's treatment is the best treatment to adopt from the onset of an attack of appendicitis, and to carry out when operation is refused, and is the best treatment to employ in almost all cases of appendicitis, after operation.

A careful examination of Ochsner's statistics show results after delayed operation superior to those obtained by immediate operation. Should his results be confirmed by a larger experience in the hands of other surgeons, the advantages of delay, with evidence of infection beyond the appendix, contrasted with immediate operation, must be granted. Until the superiority of conservative treatment has been satisfactorily demonstrated, immediate operation will be urged by the majority of surgeons in most cases of acute appendicitis in all stages.

The harm which may result from an exaggeration of the advantages of delay, and the misapplication of Ochsner's treatment to early acute appendicitis, is obvious and important. Owing to the bad results of operation in desperate cases, and the improvement which Ochsner claims may occur under his treatment, the present tendency of surgery is becoming more and more conservative; borderland cases, in which general irrigation, etc., was advised in the past, are now drained locally, or no operation is advised. In consequence, operation will no longer be the scapegoat, blamed for a death in reality due to ignorance or delay.

Conservative treatment may be advised in certain cases of acute appendicitis, in which the symptoms of rapid septic absorption (peritoneal sepsis) are out of all proportion to the evidence of peritonitis. Such cases are usually caused by a streptococcal retroperitoneal lymphangitis or diffuse intraperitoneal infection. The results of operation are most unsatisfactory.

Ochsner's treatment should be advised in most cases of spreading or diffuse peritonitis when a reasonably good surgeon cannot be obtained. Under such circumstances the results of his teaching have probably accomplished their greatest good.

Irrigation of the general peritoneal cavity is a major operation, not to be undertaken unless the conditions are such that it can be thoroughly performed. It is especially difficult when distention is extreme, and almost impossible unless anæsthesia is profound. It is indicated in recently diffused processes, particularly if the previously unirritated peritoneal cavity has been suddenly infected through rupture of an abscess. It may be used in some cases of spreading infections without adhesions, though local operation is probably preferable. General irrigation should not be employed in cases of general peritonitis of several days' duration, with circumscribed collections of pus among the intestines.

After irrigation the danger of increased absorption is best prevented by a tube or cigarette drain to the bottom of the pelvis, or, in women, vaginal drainage, with exaggerated Fowler's position for twenty-four to thirty-six hours.

Local operation with pelvic drainage and Fowler's position, without regard to the degree of peritoneal infection, is preferred by many, if not most, surgeons, to general irrigation, and, on the whole, is tending to supplant the latter. The rapidity with which it can be performed makes it the method of choice in very sick cases, in those with marked distention, and particularly in operations outside of hospitals. There are certain cases, however, in which it is inferior to general irrigation.

On an analysis of the statistics of some operators in appendix peritonitis, though the methods of operation (local or general irrigation) and the minor details of technic may vary, the results are often found to be approximately the same. The author's conclusion is, therefore, justified that natural peritoneal resistance is a most, if not the most, important factor in overcoming infection, provided the abscess and the pelvis are drained or the appendix removed in the shortest possible time, with the least amount of trauma and without spreading infection. The question whether the operation should stop at this point or be followed by a general saline irrigation appears to be one of secondary importance; it may be that the one advantage of irrigation is neutralized by its disadvantages.

In the post-operative treatment of these cases the author thinks too much attention has been given to the condition of the bowels. When the intestinal walls are paralyzed, and distention is extreme, enterotomy or colotomy may be occasionally beneficial; enemata or the rectal tube may be of use in relieving the large intestine from gas, but as the distention is chiefly due to paralysis of the small intestines, the effect is usually slight. Cathartics by mouth are always almost ineffectual; calomel, with obstipation, may be positively dangerous. Many patients are exhausted by repeated and vain attempts to move the bowels. Ochsner's routine with turpentine stupes to the abdomen is the best treatment for the first forty-eight hours after operation. When intestinal movements cannot be heard, cathartics very rarely indice peristalsis. When the paralysis has passed away and intestinal sounds can be heard, then cathartics should be given and will be found efficient. C. A. Porter (Boston Medical and Surgical Journal, March 23, 1905).

ARTHRITIS DEFORMANS.

The analogy, which Bradford has suggested, between arthritis deformans and arteriosclerosis appears to be a very close one. In arteriosclerosis the causes to which the disease has been ascribed are innumerable and the manifestations may be widely varied. The condition may be widely distributed, or narrowly circumscribed; there may be a condition of hyperplasia only or there may be ulceration, calcification, or even formation of true bone. Because of these numerous manifestations it cannot be said that we are dealing with many diseases. The writer has come to this conclusion, not only from clinical cases, but also from the study of many pathological specimens from cases of arthritis deformans. Why in one case there is new formation of bone and in another absorption is at present as much unknown as are the varied conditions that give rise to the disease. That the disease often is the result of some general alteration in the body metabolism seems possible. F. L. Richardson (Boston Medical and Surgical Journal, March 9, 1905).

BLADDER, PAPILLOMA OF, DIAGNOSIS OF.

In subjects otherwise healthy, who have never presented bladder symptoms, papilloma of the urinary reservoir will make its presence known by the sudden appearance of blood in the urine, occurring without other conceivable cause. The hæmorrhage, of varying intensity, arises without any prodromes; the amount of blood voided is sometimes only small. The hæmorrhage recurs several times in decreasing quantity and may entirely disappear within three or four days, the patient's health being unaffected. Weeks, months, or even several years may pass before the hæmorrhage again appears or any symptom of vesical neoplasm becomes manifest.

In other instances the bleeding recurs at short intervals or may be continuous. Now, the manner and form of the hæmorrhage are so characteristic that it can easily be distinguished from that arising in other parts of the genito-urinary system. When the seat of the hæmorrhage is in the urethra, the loss of a few drops of blood or a long, narrow clot, followed by perfectly clear urine, is quite characteristic, but after micturition one will be able to press out a drop or two of blood from the urethra or it may be voided spontaneously.

When a renal lesion exists, the urine will be uniformly red in color, because there has been an almost perfect blending of the two fluids; but in neoplasms of the bladder the urine is at first not mixed with the blood, or only slightly so, but toward the end of micturition it becomes more and more so, and the last part voided may consist of almost pure blood. Microscopically one may recognize whether the source of the hæmorrhage is the kidney or the bladder. In the former we have the so-called shadows of the red corpuscles, while in the latter they show all the evidence of fresh blood.

The amount of bleeding depends on the type of neoplasm; if slender villi compose the growth, bleeding will be more persistent and repeated, because they are easily torn off, while in the fibrous form of papilloma this symptom will be much less marked on account of the coarser structure of the growth. Then, again, the seat of the tumor exercises an influence on the hæmorrhage, because papilloma situated at the urethral orifice is certainly more prone to bleed than when developing in the walls of the bladder, on account of the greater pressure brought to bear on the growth in the former situation during micturition.

Pain is another symptom frequently occurring in papilloma of the bladder, and it may be present at an early stage of the affection. It is dull and steady in the region of the perinæum; tenesmus is frequent, with a severe stinging sensation in the urethra and glans, which is more particularly pronounced when clots or pieces of the growth are passed. Painful erections may also trouble the patient.

If the growth has a long pedicle or is situated near the orifice of the bladder, it may occlude it and oblige the patient to resort to various attitudes in order to overcome the obstruction. Should the neoplasm develop near the ureteral orifices, hydronephrosis in one or both kidneys may develop, leading to serious secondary lesions of the organ, and death has been known to take place from uræmia.

A fairly common complication of papilloma is cystitis, which may arise spontaneously or result from instrumental interference; it is often chronic, producing a necrobiotic change in the growth, and may extend to the kidney.

Bits of the tumor passed with the urine are of essential importance for diagnosis, for they allow one to conclude with certainty that a tumor exists, but they do not always throw much light on the nature of the neoplasm, because in many cases microscopical examination cannot distinguish between papilloma and carcinoma. The reason is this, that they are to be found in the midst of tissue spaces filled with epithelium. They are usually narrow alveoli and thickly filled with polymorphous epithelium, which at first sight gives one the impression of carcinomatous alveoli, but close examination will show the error. In larger sections, including the entire length, it at once becomes evident that these alveoli are simply transverse sections of the fissures existing between the villi, and this consequently accounts for the mistakes arising in the examination of particles voided in the urine, for here the tips of the villi, and rarely the base of the neoplasm are obtained.

From the presence of the above-named symptoms one can naturally diagnosticate a tumor of the bladder, but when hæmaturia, often of a temporary kind, exists without any other symptom, the nature of the case is more difficult to recognize. Palpation is usually negative, especially when the growth is a small, soft, villous polypus, but irrigation of the bladder may detach some villi. The sound is of little value, because these soft, velvety growths cannot be detected by it, and serious hæmorrhage and infection of the bladder may ensue from its use.

Cystoscopy is a most valuable diagnostic means, for with it one can detect a bladder neoplasm in its early stages, as well as its exact site. Now, without wishing to underestimate the value of the cystoscope, we must confess that it cannot be relied upon in cases of papillomata, because that part of the trigonum near the urethral orifice, which is a frequent site for papilloma, is not readily accessible to the instrument. And, what is more, a good picture cannot be obtained, on account of the bleeding to which these growths give rise, even after the bladder has been repeatedly washed out and when a modern instrument with irrigating attachment is employed.

If cystoscopy fails or cannot be resorted to for any reason, suprapubic cystotomy should be done for diagnosis, and since operative treatment can be carried out at the same time, this procedure is quite justified. Dilatation of the urethra in the female and digital exploration of the bladder can be resorted to, but, as elsewhere pointed out, this method should be condemned unless carried out with the utmost care, on account of permanent incontinence to which it may give rise. C. G. Cumston (New York Medical Journal and Philadelphia Medical Journal, March 18, 1905).

CANCER, EFFECTS OF ROENTGEN RAYS ON.

Study of 120 cases with reference to the effect produced by the x-ray on cancer. A uniform technic was adopted so as to be reasonably certain of the uniformity of the results obtained. The effect on ulcerated surfaces at first was that of stimulation, as evidenced by the formation of granulations, but under continued exposure the epithelial edge is destroyed and healing is retarded. It is extremely difficult to decided at what point the beneficial influence ends. The effect on scar tissue is peculiar. Certain contracted and painful scars have softened and have become much more pliable, with diminution of pain, although this is not an invariable effect, nor can any histologic change be shown to explain it. Eighteen cases in which pain was marked were treated; of these 9 patients were temporarily or permanently benefited, in some the benefit amounting to almost total relief; 5 others received a similar benefit when the brush discharge from a high-frequency machine was added, but the remaining 4 showed distinct increase of pain, and at least 2 patients who had no pain at the start had pain later, and 2 patients complained bitterly of pain coming on after exposure and lasting from twenty-four to forty-eight hours.

The observations made in cases of cancer showed that cutaneous cancer treated by the x-ray undergoes degeneration not peculiar to this form of treatment or distinguishable histologically from degeneration from other causes. The vascular changes are limited to an endarteritis; new formation of blood-vessels occurs if healing takes place, as in the process of repair elsewhere; there is an increase of elastic tissue. Taken as a whole, the clinical cases show that the only cure of cancer by the x-ray is by destruction and exfoliation. This at once limits its value to superficial cases. This destructive process is a slow one, and acts very superficially. Since it is well known that many essentially chronic superficial epidermoid cancers may be removed permanently by the slightest surgical procedure, that course seems preferable to the somewhat tedious treatment by the x-ray, and as they both may fail, an extensive surgical operation, if necessary, may be undertaken more promptly in the former case. Being non-selective in its action, the x-ray cannot be used strongly enough to affect destruction of anything but the shallowest tumors without serious injury to the overlying and surrounding tissue, or, in other words, without producing such a burn as experience shows in all probability never would heal. R. H. Vose and W. C. Howe (Journal of Medical Research, January, 1905).

DIABETES MELLITUS, ADRENALIN AND THYROID EXTRACT IN.

The writer was led by the fact that morphine causes glycosuria in the healthy and diminishes it in the diabetic, to investigate the action of adrenalin in the latter condition, animal experiment having demonstrated that it causes glycosuria in normal conditions. Apart from action on the sugar-regulating mechanism of the liver, whether direct or through the pancreas, theoretically it might appear that a substance which has a tonic effect on the muscles should increase the utilization of sugar, and thus decrease its excretion in diabetes. Experiments on diabetic patients, however, prove that the excretion of glucose and of nitrogen is markedly increased, the increase in glucose being out of proportion to that of nitrogen. It seemed from the influence of the thyroid gland in increasing the metabolism of proteids and fats that it might also increase the metabolism of sugar in diabetes. A patient was given doses increasing from .5 gram to 10 grams daily for six days, when symptoms of thyroidism supervened with a threatening of diabetic coma, and the drug was discontinued. The excretion of glucose or nitrogen was not modified. D. N. Paton (Scottish Medical and Surgical Journal, December, 1904).

ECLAMPSIA.

Eclampsia is due to a toxin which probably has its origin in the liver. Its origin is maternal rather than fœtal. Premonitory symptoms are always present. The most constant and important premonitory symptom is frontal headache. The diagnosis of toxæmia of pregnancy should be made early, and this can generally be done if the patient is under observation. The mortality should not exceed 20 per cent.

The premonitory symptoms should be treated until they are proved ineffective. The uterus should then be emptied, and this may be the only way to stop the progress of the disease. Delivery should be accomplished as rapidly as is consistent with cleanlines and the integrity of the soft parts. From 300 to 700 cubic centimeters of blood should be drawn, and then 500 to 1000 cubic centimeters of salt solution should be infused according to the quantity of blood withdrawn and the character of the pulse. It may be necessary to repeat this operation: Morphia, $^1/_4$ grain may be given to relax the muscular system, and Croton oil, 1 to 2 drops, in olive-oil, 1 to 2 drachms, followed by magnesium sulphate, $^1/_2$ ounce, in saturated solution until free purging has resulted. The diet should be limited to milk and water. Other symptoms should be treated as they arise. Allen (American Journal of Obstetrics, February, 1905).

EPILEPSY, TREATMENT OF.

The author wishes to emphasize the fact that medicinal treatment of the convulsions form only one item in the treatment of epilepsy. The most satisfactory management of the disease is that which is carried out in special institutions or under the care of a well-trained and sensible nurse attendant. In this way only can the patient be guided along hygienic lines, in respect of the suitable quantity and quality of food, the proper allotment of work and rest, and the carrying out of those physical exercises consistent with the malady. Epileptics suffer notoriously from lowered vitality and sluggish circulation in the extremities, for which warm baths, spinal douches, and massage are important remedial agents. In the treatment of epilepsy, therefore, there has ever to be kept in mind the persistent character of the malady and the tendency toward mental deterioration. As important as therapeutic remedies are congenial employment, hygienic modes of life, and suitable amusements. W. A. Turner (Lancet, March 18, 1905).

FORMALDEHYDE AND FORMALIN, TOXIC EFFECTS OF.

The results of the writer's investigations show that the inhalation of formaldehyde gas in even small quantities is followed by bronchitis and pneumonia. Formalin belongs to that rare group of poisons which are capable of producing death suddenly when swallowed. The introduction of formalin into the stomach is followed by the production of a gastritis which varies greatly in character. The duodenum and jejunum may also be involved in the inflammation. Intraperitoneal injections of formalin causes peritonitis of a fibrino-hæmorrhagic character. The injection of formalin into the lungs is followed by pneumonia and bronchitis. The inflammation which follows subcutaneous injections of formalin is characterized by intense exudation. In whatever way introduced into the body, formalin is absorbed and is then capable of producing lesions in the parenchymatous organs. The injection of formalin or the inhalation of the vapors of formaldehyde produces cloudy swelling of the parenchyma of the kidney. H. M. Fischer (Journal of Experimental Medicine, February 4, 1905).

GASTRIC ULCER, MEDICAL TREATMENT OF.

The writer advocated the medical treatment of gastric ulcer. He asserts that the claim made by Leube that from 75 to 96 per cent. of all cases of gastric ulcer are curable by medical means is well founded. The important point to bear in mind in treating gastric ulcer, as well as any other disease, is to follow a definite system. The author's routine in the management of gastric ulcer is as follows: For the first few days to one week, rectal feeding. For the next two or three weeks, diluted milk, if it is well borne. Raw or soft-boiled eggs, mutton and chicken broths follow the milk diet for some weeks more, at the end of which time a solid diet is gradually resumed. The most useful drugs are: subnitrate of bismuth, in $^1/_2$-drachm doses, nitrate of silver, morphine, and cocaine hydrochloride. The use of Carlsbad salts is probably of benefit. An albuminate of iron may be often given with advantage. F. P. Henry (American Medicine, March 11, 1905).

GASTRO-ENTERITIS, BUTTERMILK IN THE TREATMENT OF.

During a severe epidemic of gastroenteritis and of cholera infantum in the north of France, buttermilk was largely employed as a medicament. The conclusions which have been drawn by Dr. Floquet from the results of his experiences are reported by the writer as follows: Buttermilk is generally well taken by infants, who prefer it to sweetened boiled water. Its use was followed by good results, while in parallel cases, treated by other means, no improvement was observed. While acting in these cases as a specific, buttermilk is also a food and causes an increase in weight. It is indicated in both chronic and acute cases. It produces excellent results in rickets; it combats the intestinal fermentations which give rise to chronic auto-infection. Some practitioners have administered the buttermilk raw, but the majority who have used it prefer to give it boiled. The following is the method of preparing the buttermilk: One tablespoonful of farina to a liter of buttermilk, which is then slowly boiled in an enameled or porcelain vessel, at the same time that it is constantly stirred. The mixture is kept boiling for several minutes, at the end of which 75 grams of sugar are added. It is then ready to be fed to the infant, either in the bottle or with the spoon or cup. In cases of either acute or chronic gastro-enteritis, it is given in the same doses as milk, every three hours. In the beginning it is best to give it in fractional doses of a tablespoonful every fifteen minutes. Although during the first few days the child may vomit after taking the buttermilk, the stomach soon gets used to this acid food. In children over a year old, sometimes large doses are necessary. The good effects of buttermilk are to be attributed to the large amount of lactic acid present, which counteracts intestinal fermentation. The small amount of fat contained, and the fine division of the casein, thanks to churning, render the preparation very digestible. E. Decherf (Archives de Médecine des Enfants, January, 1905).

GONOCOCCUS INFECTIONS IN CHILDREN.

Gonococcus vaginitis must be recognized as a very frequent disease and one to be constantly reckoned with in institutions for children. It is also very frequent in dispensary and tenement practice and not uncommon in private practice of the better sort.

In its milder forms and in sporadic cases it is extremely annoying because so intractable; in its severe form it may be dangerous to life through setting up an acute gonococcus pyæmia or infection of the serous membranes, and in its epidemic form it is a veritable scourge in an institution.

The highly contagious character of gonococcus vaginitis makes it imperative that children suffering from it should not remain in the same wards or dormitories with other children. A similar danger, though less in degree, exists with the gonococcus ophthalmia and acute gonococcus arthritis or pyæmia.

It is practically impossible to prevent the spreading of the disease if infected children remain in the wards with others. They must either be excluded from the hospital or, if admitted, immediately quarantined.

Cases of gonococcus vaginitis can only be excluded from hospital wards by the systematic microscopic examination of smears from the vaginal secretion of every child admitted. If a purulent vaginal discharge is present, such examinations are imperative and should be made as much a matter of hospital routine as the taking of throat cultures in children with tonsillar exudates. In the absence of microscopical examinations a purulent discharge in a young child may be assumed to be due to the gonococcus.

The quarantine to be effective must extend to nurses and attendants as well as to children. Furthermore, the napkins, bedding, and other clothing of infected children must be washed separately from that of the rest of the house.

Where the gonococcus is found with no vaginal discharge or with a very slight discharge, children should also be quarantined, although it is impossible at present to say to what degree such cases may be dangerous in a ward. One of the greatest difficulties in connection with the gonococcus vaginitis arises from the prolonged quarantine rendered necessary from the fact that these cases are of very chronic character and very resistant to treatment.

The danger to nurses from accidental infection, especially in the eyes, is considerable. At the present time they are not sufficiently instructed in this respect. L. E. Holt (New York Medical Journal and Philadelphia Medical Journal, March 25, 1905).

GOUT, EXCESSIVE MEAT DIET IN THE INDUCTION OF.

The author has sought to determine by animal experiments whether an excessive meat diet exerted any specific action on any of the ductless glands. Rats and chickens were used; in poultry a meat diet induced hypertrophy of the thyroid gland. In rats there was a striking change in the character of the secretion, with catarrh of the epithelium lining of the vesicles. The author concludes that in human beings, as a result of the excessive use of meat, the character of the thyroid secretion is altered. This defect may be remedied by the administration of thyroid gland. He has given small doses of the extract in two inveterate cases of chronic gout, and in both the symptoms were relieved to a striking degree. D. C. Watson (Lancet, February 11, 1905).

HÆMORRHAGES, SODIUM BICARBONATE INFUSIONS IN SEVERE.

The results of experiments described by the writer indicate that under certain conditions the addition of sodium bicarbonate to the infused fluid may be expected to have a beneficial action. In extreme cases of shock due to loss of blood, the addition of from 0.5 to 1 per cent. of the bicarbonate to the solution of 0.8 per cent. sodium chloride may be of advantage in two respects. In the first place, the rise in all the pressures, especially in the diastolic pressure, is more pronounced than when the pure chloride is used, and consequently, the circulation (as far as the pressures are concerned) can be restored more nearly to the normal condition; secondly, the quantity of fluid required is smaller than is the case with the pure chloride, and hence the greater is the rapidity with which the solution can be hurried into the circulation, a matter of some importance in desperate cases. The author mentions one possibility which ought not to be overlooked in the employment of bicarbonate of soda—that of overworking the heart. Some experiments of a series not yet completed show that very strong solution of sodium carbonate and bicarbonate act as cardiac stimulants to an astonding degree. Therefore, it is the duty of the physician to decide in each case whether a cardiac stimulant is or is not contraindicated. The writer considers it a rational procedure to begin an intravenous infusion with a solution containing bicarbonate, and in this way to hurry the pressures upward, so to speak, and then, when the pressures reach a considerable height, the bicarbonate might, if thought advisable, readily be omitted from subsequent infusions which might be required to maintain the pressure at the desired level. E. M. Dawson (Journal of Experimental Medicine, vol. vii, No. 1, 1905).

HEART, CHANGE IN SIZE OF, ON CHANGE OF POSITION.

On skiagraphing the heart, the author has repeatedly observed that the shadow is considerably smaller if the patient stands, than when he lies down. The effect is not a purely optical one since the heart descends in the upright position of the body and shortens somewhat in the transverse and sagittal diameter. Even though the long axis lengthens slightly, the entire anterior surface will be smaller. The correctness of this observation on the human being has been proven without doubt by animal experiments. The change in size and volume is partially due to descent of the diaphragm, with the traction it exerts upon the pericardium, partially to the hydrostatic action of the upright position. The inspiratory narrowing of the orthodiagraphic shadow is also due to real diminution in size. It follows that every exposure should be made with the patient in the horizontal posture. Other advantages of the latter are: The respiratory movements are less extensive and the heart is more regular, the diaphragm occupies a median position and is not affected by the liver and intestines, the abdominal wall is relaxed, and weak individuals are less fatigued by long exposures. F. Moritz (Deutsch. f. klin. Med., vol. lxxxii, Nos. 1 and 2; Medical News, March 4, 1905).

HEART LESIONS AND KIDNEY AFFECTIONS.

The author has studied the reciprocal action of heart defects and kidney affections, and has become convinced that the routine method of treating heart affections is based on false premises. In 165 cadavers at Warsaw in which some heart or aortic affection had been the principal malady, he found only 6 in which the kidney did not show some pathologic changes. In 119 there was chronic and in 3 acute nephritis; in 24 there was cyanotic induration, in 13 parenchymatous congestion, and 1 mere hyperæmia. Mitral lesions preponderated, 54 mitral to 50 aortic, and 18 in which the two were associated, a total of 122 accompanying unmistakable nephritis. This is a proportion of 74 per cent. He produced artificial heart lesions in 30 dogs, introducing into the left ventricle a fine needle terminating in a hook, with which he tore some of the valves. Only 4 survived the operation long enough for definite conclusions to be drawn. Two of these presented distinct nephritis. The writer accepts as established, the fact that any interference with the circulation of the heart modifies the composition of the blood, and by inducing stasis in the kidneys depresses their vitality. This favors the development of disease, as the toxins are not eliminated naturally by the kidneys. They pile up in the blood and react on the heart in turn.

The author believes that the heart lesion is frequently the first link in the chain which leads to kidney disease. The latter may likewise induce heart disease, but this occurs less frequently. The practical conclusions are that the customary treatment of heart affections is irrational and injurious. Instead of trying to stimulate the kidneys to extra work, they should be spared and the patient should be treated as if nephritis were already established. Drugs to regulate the circulation should be prescribed (iodine, iron), mineral waters, dieting, etc. On the other hand, in case of kidney disease, disturbance in the heart functions should be feared, and treatment should aim to prevent extra demands on the heart. Hot baths, exercise, and pilocarpin should be avoided, and greater stress be laid on mineral waters, dieting, and a dry, tempered climate at a low altitude. The chief aim of treatment in both the heart and kidney disturbances should be to regulate the circulation. F. Bronowski (Presse Médicale, No. 100; from Journal of the American Medical Association, February 11, 1905).

INFANT FEEDING, ALKALIES IN.

A considerable amount of the alkali may prevent all stomach digestion, forcing the task of digestion on the intestine, which, while often useful for limited periods, must necessarily interfere with the development of the gastric functions so necessary for the normal stomach if it is to become fitted to digest the solid diet of the adult. By adding a moderate amount of alkali, the task laid on the stomach may be limited to one it is able to perform. The choice between these two measures, or the possible rejection of both, depends entirely on the type of case in hand. Milk diluted with plain water containing no alkali is promptly clotted in the stomach by the rennet ferment, and the clot is transformed into tougher masses when acid is secreted. Lime water added to milk checks the immediate action of rennet on the whole mass and makes the clotting more gradual, altering the form of the curd and allowing, possibly, of the passage of some unaltered milk into the intestine, but leaves no large amount of alkali to inhibit the stomach digestion. With bicarbonate of soda added to milk, the action of rennet, hydrochloric acid, and pepsin are all prevented by the greater amount of antacid present until this is finally neutralized. In the meantime, portions of the milk are not liable to get beyond the fluid state and continue to escape into the intestine. This reduces materially the burden of digestion laid on the stomach or, if the alkalinity persists a sufficient time, relieves it entirely, the labor falling on the intestine. In the young infant the stomach is just beginning its functions, and the earliest secretion which acts on the milk is rennet. Hence, it is not difficult to understand the clinical effects of adding 10 per cent. lime water or 2 grains of bicarbonate of soda to the ounce, to the food of very young infants. The food is weak in that the proportion of milk is small. The milk is decidedly alkaline so that the rennet ferment will not act and the effect is to promote rapid emptying of the stomach; for whereas curded milk tends to be retained by the stomach, fluid milk tends to pass into the intestine. This assists in tiding the infant over a period of undeveloped and difficult gastric digestion, and, as later, the alkali is reduced, directly from 10 per cent. to 5 per cent. or from 2 grains to 1 grain to the ounce, and also as the amount of milk in the mixture, the effect directly increased by augmenting the amount of milk in the mixture, the effect of the alkali is gradually lessened. The effect of adding alkalies to the food seems, then, to be that of influencing the place and type of the digestion of the food, and the problems which must be worked out in the near future will be to determine the proper kinds of alkali and the quantity of such alkali to be added if we desire to produce certain specific results; and also to determine more accurately the indications for their use or non-use in different types of cases. T. S. Southworth (Archives of Pædiatrics, February, 1905).

INGROWN TOENAIL, SIMPLE TREATMENT OF.

The author uses with success a very simple treatment for ingrown toenails in cases in which operation is for some reason impossible. He applies a soap poultice to the affected toe for twenty-four hours, and then lifts the edge of the nail from its bed as much as possible. He powders some burnt alum into the space between the nail and the ulcerated or granulating nail-bed, and then inserts a piece of absorbent cotton between these surfaces, pushing the cotton as far inward and backward as possible. The patients are quickly relieved of their pain, and the treatment is repeated for several days. He was able to obtain cures within a week. Afterward the nail is scraped to make it thinner and to reduce its pressure on the nail-bed, and the patients are cautioned to observe the strictest cleanliness, and to wear a strip of cotton in the ungal fold. Alberto Gasparini (Gazzetta degli Ospedali e delle Cliniche, January 22, 1905; from New York Medical Journal and Philadelphia Medical Journal, March 4, 1905).

INTESTINAL CATARRH, DIETETIC TREATMENT OF.

There would be difficulty in recommending a suitable routine diet for all forms of gastro-intestinal disease, but it can safely be said that the food should be unirritating and assimilable. It has been wrongly assumed that milk is universally suitable for such troubles and the author has found that in the majority of cases it is not suitable, at least at the beginning of the disease. A milk diet may be considered after the small intestine has been brought to a quiet condition by several weeks of treatment with some other form of diet. On the other hand, the milk diet is never contraindicated for catarrh of the large intestine. The diet which is recommended as suitable to bring about a quiet condition of the small intestine should contain 120 grams of albumin, 200 to 250 of carbohydrates, and 40 to 50 of fats. It may be derived from meat, fish, eggs, sugar, white bread or zwieback, sago, macaroni, bouillon, thin soups, butter, tea, and red wine. Meat is suitable for the majority of cases of acute catarrh, and usually causes very little trouble. In some cases in which the small intestine is the seat of chronic inflammation it cannot be taken. When the stomach is in a condition of achylia, the undigested meat being found in the stools, or when there is an increased decomposition of albuminoid material on account of the intolerance of meat or fish by the diseased large intestine, such food should, of course, not be administered. If the symptoms of disease of the stomach and large intestine predominate and the symptoms referable to the small intestine are correspondingly less pronounced, the use of milk will be proper to supply the necessary albuminoids. If after a few weeks of milk diet the stools become normal and the general symptoms improve, small quantities of vegetables may be given every second or third day, including potatoes, carrots, and spinach, also tea, cocoa, and cereals. After four to six weeks meat, milk, and fruits may be added. Rosenheim (Fortschritte der Medizin, January 10, 1905).

LECITHIN, ROLE OF, IN ACTION OF RADIUM AND X-RAYS.

Lecithin exposed to the action of radium or x-rays changes in some way so that it is more readily decomposed, more easily attacked by autolytic ferments. The lecithin in the cells is thus destroyed, and this in turn entails the destruction of the cells. The radiochemical processes seem to be analogous to the photochemical in certain respects. Like the sensitized salts, the lecithins by the action of the rays, are made more easily destructible. Without undergoing any apparent chemical modifications, they become decomposed more rapidly when exposed to certain conditions (contact with the developer in the first case, contact with the autolytic ferments in the second). This analogy is the more striking as it has been lately proclaimed that the biologic action of light is due to the chemically active rays. Experiments with the different components of lecithin showed that none of them was the specific agent; the total lecithin was required for the process. It was further established that a radioactive lecithin lost its activity after decomposition.

The author's experiments on animals have established the possibility of using local injection of radioactive lecithin as a substitute for exposure to radium and Roentgen rays. Large doses by intravenous or subcutaneous injection killed rabbits, but multiple small doses in loose connective tissue were not followed by any appreciable local reaction. He is convinced that this suggests the possibility that in radioactivated lecithin we may find a therapeutic factor of incalculable scope as an accumulator of the biologic action of the radium and Roentgen rays. R. Werner (Deutsche medicinische Wochenschrift, vol. xxxi, No. 2; from Journal of the American Medical Association, February 25, 1905).

LOCOMOTOR ATAXIA, TREATMENT OF, BY ULTRA-VIOLET RAYS.

The author reports the results obtained in 36 cases of locomotor ataxia treated with the ultra-violet ray. The ages of the patients ranged from 24 to 63 years. Four have been restored to good health and are now able to resume their usual vocations. Twelve have been greatly benefited, the power of coördination has been restored, pain abolished, and the ability to use the upper and lower limbs without any assistance has been established. All are able to rise, to dress and to undress themselves without any help, and are sometimes able to perform such delicate operations as fixing the necktie or tying their shoes in a stooping position. In 18 cases the disease is apparently arrested with hope of further improvement and final restoration of different functions. Two patients died during treatment, one from lobar pneumonia, the other of erysipelas of the head. These cases had for years received different forms of treatment, and while some improvement had followed from these methods, none of them had made such gratifying progress as since submitting to the ultra-violet ray treatment.

For the purpose of dehematization the author uses the cataphoric electrode (with a round piece of lint) saturated with adrenalin chloride (1 to 1000). A pad with zinc plate is applied to the abdomen, leaving it on for from three to five or ten minutes. He uses the static machine for exciting the ultra-violet lamp with the large Leyden jars as condensers. The lamp is connected by its conducting cords to the outer surface of the jars. Speaking of the mode of action of the ultra-violet ray, the author suggests that it is possible that its powerful stimulating effect induces more activity in the natural healthy cell and diminishes the nutrition of connective tissue, setting up a more active local metabolism; or, that it induces a local accumulation of heat energy and a congestive process through which neutrophile leucocytes are caused to immigrate in the vicinity of the degenerated cellular elements. The application of the ultra-violet ray to dehematized tissue must be made with great care and judgment. It should never be applied to more than two localities at each seance, and the area treated should be varied so that every day a different region of the cord is exposed. The cervical, lumbar, and sacral regions are treated alternately.

The author's routine treatment is as follows: 1. A warm half-bath at night before going to bed with light massage. 2. Ultra-violet rays in sittings of from ten to thirty minutes, three times a week. Static electricity by means of the Morton wave current or wooden brush daily, from fifteen to twenty minutes. J. M. Liebermann (New York Medical Journal and Philadelphia Medical Journal, February 18, 1905).

LYMPHATIC LEUKÆMIA, ACUTE.

In the majority of cases of acute leukæmia there is a rapid destruction of the red cells with the blood features of a severe primary anæmia. The essential changes are in the bone marrow. Certain cases seem to justify the term of "leukæmia" suggested by Leube. In the study of future cases more attention should be paid to the changes in the red cells and the probable similarity to pernicious anæmia definitely decided. The clinical features of acute leukæmia suggest its being an acute infection, and perhaps a distinct disease from chronic leukæmia. Thomas McCrae (British Medical Journal, February 25, 1905).

NITROGLYCERINE, THE LIMITATIONS OF, AS A THERAPEUTIC AGENT.

The effect of nitroglycerine on arterial pressure in patients tested by means of the sphygmomanometer, and also in animals, and it was found that high arterial pressure in man is not perceptibly affected by it nor is dilatation of the blood-vessels apparent. Some of the conclusions reached are as follows: The usual dose of nitroglycerine of $^1/_{100}$ grain is too small to produce any effect in pathologic conditions; $^1/_{50}$ grain is a minimum dose. Its effects are very transient, as shown by the experiments on dogs, and the ordinary dose of $^1/_{100}$ grain every four hours could not possibly have any effect on the arteries. Nitroglycerine is said to increase the quantity of urine in chronic Bright's disease, but after keeping accurate records of the daily amount of urine passed, the author was never able to satisfy himself that any increase seen was due to this drug. In conditions due to arterial spasms, so called, such as angina pectoris, migraine, asthma, nitroglycerine may be of benefit, in full doses often repeated, but not in arterial sclerosis, in which the arteries themselves are more or less changed. H. P. Loomis (Medical Record, March 18, 1905).

OPTIC NEURITIS DURING LACTATION.

The writer reports 1 case of optic neuritis and reviews 24 others occurring during lactation. The average age appears to be about 29 years, the youngest patient being 21, and the oldest 42. Primiparæ and multiparæ seem to be affected with equal frequency. Usually, there is but a single attack, although several cases give a history of diminished vision after each pregnancy. The disease affects strong, healthy women as frequently as it does those who are less robust. In practically all cases the eyes were said to be healthy previously. The seventh week was the time of election for the process to begin but it varied in wide limits from shortly before birth to over a year after. Establishment of the milk secretion, not actual nursing, is regarded as the important factor in the production of the disease, for in one case the child was premature and died, while in another it was only nursed once, dying a short time after birth. Suppression of the milk secretion coincident with the onset of the disease has been reported twice. Occasionally the patient gave a history of protracted nursing, but in a large majority of cases lactation has been entirely within normal limits.

Both eyes are more commonly affected than one alone, and it is interesting to note that the monocular cases seem more prone to develop a retrobulbar neuritis than a papillitis. Ophthalmoscopic examination shows the loss of vision to be due to an inflammation of the optic nerve, the signs of which are more or less apparent at the disc. Generally, there is a well-marked papillitis, occasionally one of extreme severity, with extension of the process into the surrounding retina, while in the retrobulbar type, there may be no visible sign of inflammation, although double blindness exists. Atrophy of a varying degree usually results, but may be absent. The amount of visual diminution varies greatly, but commonly reaches a considerable degree, even to absolute blindness. The vision bears no relationship to the severity of the process, since almost normal sight may be noted, in spite of a well-marked papillitis, while total blindness has been observed without changes visible to the eye. In a corresponding manner, the vision tends to regain its normal acuteness, notwithstanding the development of atrophic change.

Certain cases have shown a tendency to occurrence during each succeeding pregnancy, and in these, at the end of several attacks, there is likely to be a permanent diminution of sight. Frontal headache is a constant precursor of the disease. The pain is often localized in the orbit, and deep tenderness may be elicited by pressure on the eyeball, while movement of the eye may cause considerable discomfort.

Although, as a rule, general disease does not accompany this affection, yet certain cases have shown an acute onset with headache, chills, fever, vomiting, and general malaise. In such cases suppression of the milk secretion is apt to occur. The writer is of the opinion that there is little evidence to connect this affection with lactation, and that the term lactation indicates simply, in the absence of a better term, the characteristic by which these cases may be most easily recognized.

Being still in the dark as to the cause of this obscure affection, treatment must be on general lines. Elimination should be stimulated. The power of resistance must be increased in every way. Weaning should be advised. Recurrent attacks should be watched carefully. G. S. Derby (Archives of Ophthalmology, February, 1905).

PANCREAS, EFFECTS OF REMOVING.

As the result of experiments on dogs, the author found that the constant effects of removing the pancreas consisted of a transient glycosuria, occurring within twenty-four or thirty-six hours after the operation, and followed afterward by a slight glycosuria which lasted from forty to sixty days. There were also disturbances of digestion and nutrition, emaciation, polyuria, excessive and abnormal appetite, and thirst. These disturbances were not fatally progressive, but disappeared after a time. The results seem to show that the pancreas has an influence on the metabolism, regulating the processes thereof in some way. This is proved by the fact that injections of the extract of pancreas in these dogs proved of benefit to the general metabolism, but did not have any effects on the glycosuria. The removal of the spleen and of other organs act in the same way, although less markedly. The results obtained by various observers with animals with removed pancreas vary greatly, and this is the principal difficulty in solving the question as to the action of the pancreas. These differences in the results, the author thinks, are due to the individual predisposition of the animals, as one author has produced glycosuria of various types by experimentally inducing neuritis in the peripheral end of the cut vagus. The differences in results also depend, in a measure, on the ages of the animals used, and also on the presence of various complications, due to the operation, etc. The results which he obtained correspond closely to the symptoms seen in man in severe forms of diabetes. He pleas for a broader interpretation of the term diabetes, and asks that glycosuria should no longer be held synonymous with that disease. The worst clinical forms of diabetes sometimes are accompanied by very little sugar, and the lightest cases show sometimes the largest amounts. The author considers diabetes as a disease of autolysis, in which the decomposition of the proteid molecule goes on too fast, in which there is, so to speak, a gangrene of the organism. The bulimia and the polyphagia are only results of this abnormal decomposition. Torindo Silvestri (Riforma Medica, February 11, 1905; from New York Medical Journal and Philadelphia Medical Journal, March 25, 1905).

PERNICIOUS ANÆMIA, PATHOLOGY OF.

A histological study of 17 cases of pernicious anæmia was made by the authors, from which they draw the following conclusions: The essential feature of the disease and the criterion in its diagnosis is, that it is a megaloblastic anæmia. The widespread evidences of blood destruction occurring in liver, spleen, leucolymph glands, and marrow indicate abnormal vulnerability in the blood-cells rather than a pathologically excessive leucolytic action on the part of so many diverse tissues. The accumulation of iron in the liver is due partly to the disintegration of weakened or weakly blood-corpuscles by endothelial cells and leucocytes, and partly (and to a much greater extent) to storage of iron, which is the product of red blood-corpuscles which have been disintegrated by phagocytes elsewhere. This accumulation of iron in the liver is not peculiar to pernicious anæmia, and is the normal result of the abnormal amount of blood destruction. There is no direct evidence of special disease of the intestine, and the intestine need not be the primary seat of toxin production, though in certain cases, and notably in bothriocephalus anæmia, it probably is. In some part of the body a toxin is produced which acts directly on the bone marrow, interfering with normoblastic blood-formation, leading to megaloblastic formation, and acting with negative chemic taxis upon leucocytes, especially of the neutrophile variety. The large, old blood-corpuscles produced by such a marrow, perhaps as much from their size as from inherent weakness, fall a ready prey to endothelial cells and leucocytes in the hæmolytic organs, notably hæmolymph gland, spleen, and marrow. It is quite possible that certain individuals, from congenital defect in the marrow, may be specially prone to the disease, as there is little doubt that the megaloblastic degeneration represents a reversion to the fœtal type. G. L. Gulland and A. Goodall (Journal of Pathology and Bacteriology, January, 1905).

PNEUMONIA AND PREGNANCY.

The death rate is appreciably higher in the pregnant woman than in the ordinary patient. Abortion takes place in more than half the patients. The mortality is much higher when abortion takes place than when the uterus does not empty itself. The mortality is higher in the last three months of pregnancy. The causes of death can be attributed to *(a)* diminution in the hæmoglobin; *(b)* degenerative changes in heart muscle; *(c)* overloading of the right heart and pulmonary circulation after birth. The high percentage of abortions is due to accumulation of carbonic acid in the blood. R. C. Ransdell (American Medicine, February 11, 1905).

PNEUMONIA, LOBAR, IN INFANCY.

Pneumonia is far more common during the first two years of life than is generally supposed. Its course and prognosis differ materially from the descriptions given in many of the older as well as in some of the newer text-books. The onset is less stormy than is usually described. A chill practically never occurs; convulsions are very unusual. Cough rarely amounts to much in the beginning. High fever usually develops rapidly and is generally accompanied by drowsiness and apathy. The most common period of pyrexia is seven days. A shorter duration is more common in infancy than later. The average duration is longer in the fatal cases. Remissions of even as much as three or five degrees are not uncommon. Crisis is less common than later. Lysis is especially common in cases of long duration. Collapse during the crisis is less frequent than is usually taught. The usual pulse-rate is between 150 and 170, being over 150 in 75 per cent. The usual respiratory rate is between 55 and 80. It is more often above 80 than below 55. The rate of respiration is always increased out of proportion to that of the pulse. This change in the pulse-respiration ratio is most important in diagnosis. Cough is seldom a prominent symptom. Gastro-intestinal symptoms are very common and very important. Marked anorexia is the rule. Vomiting is not very common. Diarrhœa is more common than constipation. Distention of the abdomen is frequent, difficult to relieve, and often hastens the fatal termination. The urine often shows the evidence of acute degeneration and occasionally of acute inflammation of the kidneys. The usual mental condition is one of drowsiness or apathy. Cerebral symptoms are usually functional in origin and are frequently associated with a high temperature. The nervous symptoms are often due to a complicating inflammation of the middle ear. The diminution of the respiratory sounds on the affected side is often the earliest sign and is of great importance in diagnosis. The order of frequency of involvement of the lobes is left lower, right upper, right lower, and left upper. There is no relation between the mortality and the part of the lung involved. The mortality varies directly with the amount of lung involved. Acute inflammation of the middle ear is the most common complication.

The pneumonia mortality in the Infants' Hospital series was 25 per cent. This is higher than that in private practice. The younger the infant, the worse the prognosis. The prognosis varies with the amount and not with the part of lung involved. Fever lasting more than nine days is of serious import. The prognosis is good when the temperature is not over 103° F. It is serious when over 106° F. Variations between these two points are unimportant. The prognosis is good when the pulse is not over 140 or the respiration over 55. The amount of the increase above these limits is of little importance. The gastro-intestinal are the most dangerous of the more common complications.

The treatment is hygienic and supportive rather than medicinal. Far more harm can be done by overmedication than by undermedication. The infant should not be disturbed. It must have the greatest possible amount of fresh, cool air. The diet must be regulated to suit the weakened digestion and food forced if necessary. Stimulation should be used when indicated, and not as a routine measure. Strychnine is most useful, alcohol next. The fever should not be treated unless it causes marked nervous symptom or depression. It should then be treated by cold externally and not by antipyretics internally. Cold must be used cautiously, as infants bear it badly. Fan baths and cold packs are best borne. Local applications should be used only for pain; oxygen for cyanosis. Creosote, the various serums, and other "specifics" have no effect on the course of the disease. J. L. Morse (American Medicine, January 28, 1905).

PREGNANCY, TOXÆMIA OF.

At present this condition may be regarded as a functional disturbance of the liver, usually accompanied with anatomical lesions of that organ, and with functional disturbance and anatomical lesions of the kidneys and other organs. The kidney disease may become pronounced only when the poisons resulting from the failure of oxidation in the liver cause degeneration, congestion, and exudative inflammation of these organs. It may, therefore, be far advanced before albuminuria appears. There may be fatal cases with minimal lesions of the liver. The hepatic lesions follow the disturbance of function, but there are several steps between the loss of oxidizing capacity and the hydrolysis, fatty degeneration, and necrosis of the liver cells. Many factors are concerned in the disturbance of nitrogenous metabolism, such as the retention of substances usually eliminated with menstruation, the increased metabolism required in the growing fœtus, the influence of thyroid and parathyroid, etc. Two important observations upon autopsy subjects were the distended intestine containing saline solution which had not been absorbed, and the remarkable concentration of the blood. The inference from these conditions is that the blood requires dilution, but it should be by infusion with saline solution rather than by rectal enema. Pathological study also shows the absence of any necessarily fatal character in the disease. We are dealing primarily, at least, with a disturbance of function, not with a hopeless anatomical lesion nor an uncontrollable bacterial infection. Ringer's fluid is recommended for infusion, rather than the usual normal salt solution. Ewing (American Journal of Obstetrics, February, 1905).

PREPUERPERAL AND PUERPERAL HÆMORRHAGES.

In order to cope satisfactorily with these hæmorrhages every practitioner must have decided positively beforehand on his line of action in such cases, and then make the best use of every minute. The successful handling of these cases depends largely on the ability of the physician to classify them properly, as no one method of treatment can be suggested that would be suitable for all cases. If the child is viable, or if a severe hæmorrhage has occurred, labor should be induced at once. If the child is not viable and the hæmorrhage has been slight, the physician is justified in temporizing, providing the patient can be watched carefully. The writer expresses the opinion that no condition of the patient in placenta prævia ever justifies rapid dilatation or rapid emptying of the uterus. If the child is viable, or if a severe hæmorrhage has occurred, the patient a primipara, and the os rigid, the cervix should be drawn down and the cervix and vagina packed with iodoform gauze. If properly done this will usually stimulate uterine contraction and satisfactorily control the hæmorrhage. In a few hours, in the vast majority of cases, the os will be sufficiently dilated to admit of digital dilatation. If the hæmorrhages are not severe, pains strong and regular, the head or buttocks engaged, watch and wait. If the hæmorrhage increases, the membranes should be ruptured. If this is not effectual a foot should be brought down, but done gently, so as to disturb the placenta as little as possible, and to produce the least possible shock to the mother. If the hæmorrhage is extensive or severe, with the cervix fairly well dilated, version should be performed, the membranes ruptured, and a foot brought down. If the patient is not exsanguinated or suffering from shock, gentle, intermittent traction not exceeding two pounds should be used. Should, however, either of the conditions mentioned exist, restoratives should be used at once, such as normal saline solution, morphine, strychnine, digitalin, or an ether or a whisky hypodermic. After delivery the placenta and membranes should be removed at once, and if hæmorrhage continues, the uterus should be drawn down, the entire uterine cavity, cervix, and vagina packed with sterilized gauze. The author states that the hydrostatic and pneumatic methods of dilatation are practically limited to hospital practice. The same may be said of Cæsarean section. Bossi's dilator and every other metal dilator are condemned as being most dangerous. No method of treatment should be adopted that will diminish the mother's chances in the slightest degree. The author also condemns the practice of relinquishing old and tried methods for the sake of experimenting with something new. The treatment of post-partum hæmorrhage is largely preventive. If, however, it does occur, and the placenta is still in the uterine cavity, with extensive hæmorrhage and with a poorly contracting uterus, the placenta should be removed with the gloved hand, allowing the hand to remain in the uterine cavity until expelled by the contractions of the uterus. If the uterus is empty when the hæmorrhage occurs, a hot douche should be given at 120° F., or the same with a 3 per cent. acetic acid, and then packed with sterile gauze, drawing down the uterus, as for vaginal hysterectomy, to do so. C. J. C. O. Hastings (New York Medical Journal and Philadelphia Medical Journal, February 25, 1905).

PREVENTIVE MEDICINE: HOW CAN THE PHYSICIAN PROFIT BY IT?

Dr. Taylor presents evidence to show that it is necessary that preventive medicine shall be exhibited to the profession as a means of advantage to themselves as well as to the community and expresses the hope that the subject will be amplified by others from various standpoints.

He submits certain postulates: First. That the relationship of the physician to the patient is at present, and has long been, on the wrong basis; that the customs now prevailing are false, unfair.

Second. It is wrong to call on the practitioner only to aid those suffering from disease. He should be given free opportunity to inspect the members of a household at regular periods or at will, thus to recognize in their incipiency derangements which may grow into disease; also the character of the hygienic precautions taken, and systematize these, pointing out errors and suggesting improvements, whereby dangers may be limited or prevented.

Third. Disease is now being studied from the standpoint of economics, hence prevention is to be welcomed as a source of general wealth.

Fourth. Legislatures can be made more effective if physicians will take their part more energetically and exercise or organize power to prevent or limit preventable disease.

Fifth. Physicians should point out the ways to reform and educate the public more clearly and emphatically than they do.

Sixth. They should acept the authority of the Health Boards more cordially and work with them to accomplish results and not exhibit jealousy.

He recommended that physicians organize and adopt a different fee system; it is a false position for the physician to earn no fee except by being invited to meet exigencies only when they have arisen; better to adopt the plan long since found necessary by lawyers of demanding a retaining fee of yearly stipend of the householder, thus giving them access to the house to learn the personal habits, to observe constitutional peculiarities, to rectify these, and in many ways save from peril obvious enough to them, but obscure to the uneducated.

He suggests many directions in which the physician could attain vastly better results if this privilege was freely accorded.

He should be the expert in the conservation of energy and the development of inherent powers, the correction of bodily faults.

He must become a practical psychologist and give attention to the psychic variants, ethical peculiarities, and limitations.

Most people are unwilling to admit themselves indisposed until they are definitely ill, and thus frequently much valuable time is lost when serious conditions are beginning.

In children, many conditions could be prevented before too late, such as deformities, which not only impair activity, but often strike at the very foundation of organic integrity by displacing vital organs. Psychoses could thus be early observed and a large series of dangerous results to mind and body could be remedied.

He finally alludes to many of the duties of the physician which are neglected, such as the duty of discouraging the use of many medicines, bitters, tonics, fluid food preparations, cough medicines, and the like, whose chief factor of attractiveness is the contained alcohol or narcotics. This is the direct result of self-medication on the part of people who rarely or unwillingly consult their medical adviser as to minor ailments, yet will accept the allurements of conscienceless advertisers. Limitless harm is thus wrought, tastes for narcotics engendered, even drunkenness encouraged. Our failure to take a firm ethical stand lowers professional potential and detracts from the influences of medicine and encourages charlatans. J. Madison Taylor (Transactions Philadelphia County Medical Society, March 8, 1905).

PUERPERAL FEVER, PREVENTION OF.

The writer thinks that it is just as important to sterilize the internal genitals after childbirth as it is to instill the prophylactic silver solution in the eyes of the newly born child. Conditions, of course, are much simpler in the case of the child's eyes, but the principle of prevention of development of lurking germs is the same. He regards Zweifel's idea as to the evacuation of all blood clots as a very fortunate one. Extensive experience has proved that collargol is perfectly harmless for the purpose, and is a powerful antiseptic and catalytic remedy which kills or attenuates the germs in the uterus or vagina. If systematically used, it would greatly reduce the number of deaths from puerperal fever. Collargol is introduced in the form of a suppository pushed high into the vagina or cervix or into the uterine cavity after delivery, the opening into the vagina then being loosely tamponed with gauze. The formula for this "collargol-vaginal ball," as the author calls it, is:—

℞ Collargol,
Talc. pulv., of each, gr. xv.
Olei cacao, ℥ivss.

M. ft. globuli no. x.

The suppository and gauze can be renewed at need. The collargol penetrates into every crevice, sterilizes the secretions without injuring the living cells, and, to some extent, is absorbed. Even if infection be already present, it is attenuated, but, in this case, more energetic measures are necessary. The author irrigates with a 1 to 2000 or 5000 solution of collargol, introducing a suppository to act during the intervals, with other measures as indicated, using as the last resource intravenous injections of 8 to 10 cubic centimeters of a 2 per cent. solution of collargol. B. Credé (Centralblatt für Gynäkologie, February 11, 1905).

RINGWORM, TREATMENT OF.

The writer warmly recommends Sabouraud's method of treatment of ringworm of the scalp by means of x-rays. All chemical and antiseptic methods fail because the root of the hair is inaccessible. Radiotherapy causes the hair to fall out, but hitherto it has not been successful in ringworm, because of the absence or imperfect measurement of the quantity and quality of the rays applied. Sabouraud has worked out a successful method of measurement of the rays, and as practiced by him it is painless, the actual time necessary for the treatment is short, and the diseased hairs fall out at a definite interval after application of the x-rays, and are replaced after a certain time by a growth of healthy hair. J. L. Bunch (Lancet, February 18, 1905).

SCARLET FEVER, EAR COMPLICATIONS OF.

The author emphasizes the necessity of paying attention to the removal of hypertrophied tonsils, adenoid vegetations, and nasal obstructions in all our little patients, so that when subjected to the strain of scarlet fever they may avoid the principal method of ear infection. Owing to the rapidity with which destruction of aural tissue and extension of infection takes place in this disease, as soon as the tympanum shows signs of exudation and the membrane of bulging, a paracentesis should be immediately performed. Repeated examinations of the ear, especially in infants and children, should be made on account of the uncertainty of the symptoms. Herman Jarecky (Medical Record, February 25, 1905).

SPRAINS OF THE KNEE AND ANKLE JOINTS.

These sprains for the most part involve the ligaments of the joints. If forced extension of the leg upon the thigh is made, injury readily results, as in extension all the ligaments of the knee joint, except the ligamentum patellæ, are put on the stretch; conversely, forced flexion rarely results in injury, because the conditions are reversed. In injury to the knee or ankle, an anæsthetic may be necessary to effect a diagnosis. The more promptly treatment is instituted after injury to either of these joints, the better the results are apt to be. Hot applications, as cloths wrung out of hot water, applied about the joint for forty to sixty minutes and covered with oiled silk or wax paper, will greatly lessen pain and limit swelling. After this Cotterell's dressing may be applied. This consists of strips of adhesive plaster placed longitudinally over the knee, and the whole covered with a rubber bandage. If there is great effusion, aspiration may be necessary. At the ankle joint the lateral ligaments are the ones most usually involved. If effusions and pain are great, the foot and ankle should be immersed in hot water for a time and then a Gibney dressing applied and the patient directed to begin walking under the eyes of the surgeon. The dressing should be removed after a week, the parts given massage, and the dressing reapplied. J. T. Wilson (Medical News, February 25, 1905).

STERILITY, TREATMENT OF.

There are two causes for sterility in women, if one disregards rare causes. The first is due to developmental faults in the genital organs and the second to gonorrhœa. Since the severe damage which gonorrhœa is capable of doing has been recognized, the importance of this disease in the causing of sterility in women has been much exaggerated. At least two-thirds of the cases are caused by developmental defects. This is very rarely the absence of the whole genital tract or part of it, but much more commonly infantile types of the organs. In some cases this infantilism affects the whole tract, while in other cases only certain parts are so affected. We have no knowledge as to how these developmental defects act inhibitorily on conception. When the ovaries are ill-developed and more like fœtal organs, one must suppose that oculation takes place at rare intervals and is never profuse. When the tubes are much convoluted and defective they probably refuse to carry out their function properly in carrying the ovum into the uterus. The sperm cells, too, may have difficulty in ascending in such tubes. When the uterus is infantile one supposes that it hinders the passage of the sperm cells, and also does not offer the impregnated ovum a chance to find a resting place.

A short anterior wall of the vagina and an insufficient vault renders the retention of semen in the vagina almost impossible, and the empediment to the semen is also met with when the cervix is sharply bent on the uterus, when the os is stenosed, and when the mucous membrane is defective. In gonorrhœa, the chief change which hinders the passage of the sperm cells is the inflammation of the mucosa of the cervix and uterus and the presence of purulent material, which latter acts directly on the cells.

In treating these cases the writer thinks it necessary to investigate in each case whether sperm cells are to be found in the secretion of each portion of the tract. The prognosis in sterility due to infantilism must depend on the extent of the defect. When the cervix is alone affected, it is good, provided that the treatment is properly carried out. Less good results may be expected when the uterus is affected, and when the changes are well marked, one may take it for granted that the ovaries also are infantile, and then the prognosis is bad. In a few cases it has been observed that the arrested development can be continued, even after a considerable time, if this is not severe. The only means which gave any results in this direction was the application of constant electrical currents.

In dealing with defects in the outer passages, including the cervix, much patience must be exercised, since the developmental defect tends to offer considerable resistance to dilatation. One can choose any method of treatment, but one must continue it for a long time. The stretching and dilatation of the vaginal vault is difficult and often very slow. Some forms of small pessaries do good at times.

The prognosis in cases due to gonorrhœa depends on when and in which stage the infection is recognized. If the cases are seen early and recognized at once, it may be expected that no sterility will follow. Since the treatment must be directed toward preventing the inflammatory changes from spreading upward, all intrauterine measures must be avoided. Great care must be exercised; the chief points are to keep the parts as much at rest as possible, and especially during the period. Careful vaginal irrigation does good; as does discission. When the infection has already reached the tubes, all need not be given up. Cases of suppuration in the tubes have been cured with rest, application of ice, and later hot packs. The pus may become absorbed and no sterility follow. After the appendages have been generally inflamed, one must wait until everything has quieted down completely before applying massage, which they may do good. Removal of one ovary and freeing the other from adhesions has led to conception in one of the author's patients. Only when actual destruction of tissue has taken place must the prognosis be considered hopeless. E. Bumm (Deutsche medicinische Wochenschrift, November 24, 1904; from British Medical Journal, March 4, 1905).

SUBCUTANEOUS NOURISHMENT AFTER SURGICAL OPERATIONS.

The direct introduction of nutriment into the tissues is suggested by the author, especially after operations upon the abdominal organs in cases in which the digestive organs are entirely or partially unable to perform their functions. He has been experimenting in this direction for years and has found that heat units can be satisfactorily introduced by means of a 2 per cent. sodium chloride solution containing 30 to 35 parts per mille of chemically pure grape sugar. This solution should be boiled ten minutes, and when cooled to the temperature of the body 1 to 2 liters may be injected daily under aseptic precautions. For the further production of heat 20 to 100 grams of sterilized oil may also be injected. The production of a suitable albuminoid was extremely difficult, but he finally succeeded in producing a pepsin-fibrin-peptone which would not coagulate and which could be sterilized from ten to thirty minutes without disintegration. This was injected in 20-gram doses, the equivalent of 100 heat units, without discomfort, and was readily assimilated. Reduced to a formula the author's method was as follows: In the morning 1000 grams of water containing 2 grams of sodium chloride, 35 grams of grape sugar, and 15 grams of peptone; in the afternoon the same quantity of water, sodium chloride and sugar, and 5 to 10 grams of peptone. In the interval between these two injections a single injection of 20 to 100 grams of olive-oil was injected. By this method the necessary quantity of proteids is supplied to the body so that in such conditions as peritonitis and perforation of the stomach and intestine sufficient nutriment may be introduced for as long a period as ten to fourteen days if necessary. Friedrich (Fortschritte der Medizin, January 10, 1905).

THYROID AND PANCREAS, RELATION BETWEEN.

The author experimented on dogs, producing hyperthyroidism, extirpation of the thyroid, and removal of the pancreas, then examining the organs histologically. His conclusions are as follows: In dogs injected with thyroid substance, so as to be hyperthyroidized, there were destructive lesions in the islands of Langerhans in the pancreas. In dogs deprived of a thyroid, lesions of the pancreas were not constant. The lesions indicated an essential nervous mechanism for the pancreas. In dogs without any pancreas, the thyroid showed hypersecretion and increased function. These alterations may be the cause of the manifestation of symptoms of Basedow's disease in diabetes. Occasionally there was irritation and atrophy of the gland. A relation between the thyroid and pancreas may be considered demonstrated, and a vicarious action of one for the other. Alfonso Pirera (Giornale Internazionalle delle Scienze Mediche, January 15, 1905; from Medical Record, February 18, 1905).

TUBERCULOSIS, ACID SALTS IN BLOOD IN.

The writer is convinced that greater attention should be paid to the acid salts in the organic fluids in studying tuberculosis. Four years of careful research have conclusively demonstrated, in his opinion, that the normal organism with its standard phosphatic acidity is refractory to tuberculosis. Hypoacidity and deficiency in the phosphates are the predisposing causes in the pretuberculous stages. It is impossible to remove this cause and to protect the subject against tuberculosis by raising the acidity of the proportion of phosphates above normal. If the patient is already infected, increasing the proportion of phosphates and raising the acidity will enable him to get rid of the tubercle bacilli and to repair the lesions if not too far advanced. The bacilli destroyed in their haunts are liable to cause more or less intoxication of the system, and this intoxication limits the curative powers and is the test of the gravity of the morbid process. When there is only a slight or moderate febrile reaction, with a normal or hypernormal acidosis, a subject with pulmonary tuberculosis can be cured easily, no matter how apparently extensive the lesions may be.

Treatment to increase the acidity and phosphates should be gradual and slow, with very small doses of the phosphates or phosphoric acid, etc., gradually accustoming the organism to the struggle before it. Forced feeding is important, but it should be borne in mind that fats, starch, sugar, alcohol, and organic acids produce very little if any acid and no phosphate ash.

The writer gives his technique for testing the acidity, preferring a modified phenolphthalein test of the twenty-four-hour urine. He states that the blood-pressure, and also the secretion of hydrochloric acid, rise and fall with the acidosis. Tuberculous subjects are invariably hypoacid and hypophosphatic. By increasing the proportions above normal in this respect the organism becomes an unfavorable medium for the bacilli and they cease to proliferate. This allows the organism time to get the upper hand. C. Canter (Revue de Médecine, vol. xxiv, No. 4; from Journal of the American Medical Association, March 11, 1905).

TYPHOID FEVER, CHLORIDE AND WATER EXCRETION IN, WITH COPIOUS DIURESIS.

The free administration of water to typhoid patients causes a large polyuria, exceeding three liters per day and averaging over five liters. On isolated days nine liters are not rarely excreted. The percentage of chlorides and the total molecular concentration are much below normal, while the daily excretion of total dissolved molecules exceeds that of ordinary typhoid cases. The eliminating capacity of the kidneys is, therefore, not injured in typhoid fever, nor by a prolonged polyuria. No accumulation of fluid appears to occur in the body, the excretion being very nearly parallel to the income. The quantity of urine is influenced by the perspiration and to a lesser extent by catharsis. It appears probable that the perspiration is freer under the influence of the large administration of fluid. The temperature has no direct effect on the diuresis. Diuretics do not increase the polyuria, nor does the administration of calcium chloride appear to diminish diuresis.

The effect of the polyuria on the chloride excretion, as compared with ordinary typhoid cases, consists in a diminution of the percentage and an increase of the amount excreted per day. Minor variations in diuresis effect the percentage, but not the daily output. Perspiration acts indirectly, by influencing the diuresis. The course of the fever, the degree of hyperpyrexia, and the convalescence appear to have no direct effect.

The chloride excretion varies strictly with the chloride income. The effect of calcium chloride is, however, delayed and comparatively small. Agurin, sodium acetate and nitrate, and urotropin had no effect on the chloride excretion, but it was increased by iodide. Moderate nephritis was without effect.

The excretion of water and chlorides in typhoid fever appears to obey the same laws as in health. There is, however, a greater tendency to chloride retention in the fever. The difference appears to be only quantitative and not qualitative. It is greatly diminished by polyuria.

The prolonged restriction of the chloride income appears to produce no deleterious effects, and the patients do not develop any "salt hunger." Torald Sollmann and J. A. Hofmann (American Journal of the Medical Sciences, February, 1905).

URIC ACID: ITS INFLUENCE IN GOUT.

The writer notes the great variability in the amount excreted in different individuals and in the same individual under different conditions of diet, exercise, and disease. Uric acid in the urine may be exogenous, from foodstuffs, or endogenous, from the destruction of the body cell. It may exist in the blood from increased production, or from deficient elimination and oxidation. Deficient elimination is due to kidney disease, deficient oxidation to disturbance of liver, kidneys, or other glandular organs, or from lack of muscular activity. Garrod's claim of an excess in the blood during a gouty attack has been proved erroneous. If uric acid were toxic, we would expect to find symptoms from it in conditions in which it is known to be excessive, as in leukæmia, pneumonia, chronic nephritis, etc., and in which no symptoms referable to it are ever seen. The same is true of cases in which nuclein holding food was fed in excess, and the uric acid output largely increased. Under no circumstances have uric acid crystals ever been found postmortem in the tissues. The blood is never saturated. It has been proved that it is always capable of taking up large quantities. There is no evidence at all that it causes gout or any other disease. C. C. Ransom (Medical News, March 11, 1905).

VISCEROPTOSIS.

The displacement downward of any of the viscera is without symptoms, so long as the patient is in good physical condition. The disease comes to notice in association with neurasthenia, and no mechanical replacement can cure the neurasthenia. On the other hand, a cure of the neurasthenia goes far to make a symptomatic cure of the visceroptosis. Over 90 per cent. of cases of neurasthenia in the female depend upon visceroptosis. It is less prevalent in male neurasthenias. The important clinical etiological factors are bad standing posture, badly fitting garments, imperfect use of the lower zone of the thorax, the absence of fat, and the want of tonicity in the abdominal pressure. The symptoms, when well marked, are practically those of neurasthenia with or without direct local distress. Some form of gastric disturbance is the one usually complained of. Pain may be felt anywhere, but is most frequently referred to the small of the back. The crisis of movable kidney has been taken for appendicitis, and intermittent hydronephrosis for ovarian tumor. Gynæcologists are coming to recognize that prolapse and displacement of the uterus is but part of the general visceroptosis. There is usually a mild form of secondary anæmia. Presenility is occasionally found, and this may be attended with early arteriosclerosis. The most constant symptom is emaciation or malnutrition. The skin is markedly free from fat, and devoid of elasticity. Dermography is a stigma of the disease. The abdominal musculature is flabby and atrophied, and there is absence of the stomach resonance in Traube's semilunar space. In many cases the tenth rib floats.

The inflation of the stomach and colon should be carried out, after the solid organs have been palpated. The Weir Mitchell treatment when applied to visceroptosis is curative, stress being laid upon the following features: Recumbent posture in bed, if possible without pillows, for from four to six weeks. Cool baths before massage to get muscular relaxation. General massage, with an attempt to build up the abdominal wall. Raiding up the thorax, so as to expand its lower zone, and thus make room for the viscera. Proper feeding. Training of mind and body. The muscular one of the levator ani in bringing the pelvic viscera to their normal position. The tone of this muscle is largely dependent upon the tonus of the lower half of the abdominal wall. H. A. McCallum (British Medical Journal, February 18, 1905).

WATER-DRINKING, INFLUENCE OF.

Copious water drinking causes an increased excretion of nitrogen and phosphorus by the urine. The increase in the amount of nitrogen eliminated is due, primarily, to the washing out of the tissues of the urea previously formed, but which has not been removed in the normal processes, and, secondarily, to a stimulation of proteid catabolism. The increase in the excretion of phosphorus is due to increased cellular activity and the accompanying catabolism of nucleins, lecithins, and other phosphorus-containing bodies.

In man an increase of 4500 cubic centimeters in the daily amount of water ingested, after the organism has been brought to nitrogen equilibrium by means of constant diet fed during a preliminary period of three days, caused an increase of 1.415 grams, or 12.8 per cent.; in the excretion of nitrogen by the urine on the first day, and the somewhat smaller increase of 0.755 gram, or 6.8 per cent., upon the second day. Therefore the total influence upon the excretion of nitrogen by the urine produced by the ingestion of 9000 cubic centimeters of water additional in a period of forty-eight hours was to cause an increase of 2.17 grams during that period. This was an average daily increase of 1.085 grams, or 9.8 per cent., above the normal output.

In other experiments additions of 3100 cubic centimeters of water to the constant diet caused increases in the excretion of nitrogen by the urine, varying from 0.83 gram, or 5.9 per cent., to 1.12 grams, or 9.5 per cent., for the first day, and from 0.38 gram, or 2.7 per cent., to 0.78 gram, or 6.6 per cent., for the second day.

The course of the SO_3 excretion, while somewhat irregular, still showed a general tendency to run parallel with that of nitrogen. A daily addition of 4500 cubic centimeters of water for a period of two days caused an increase of 0.265 gram, or 15.6 per cent., in the SO_3 excretion by the urine on the first day, and one of 0.195 gram, or 11.6 per cent., on the second day. When the amount of water added daily during a period of forty-eight hours was 3100 cubic centimeters, the increase upon the first day varied from 0.205 gram, or 10 per cent., to 0.085 gram, or 4.1 per cent. On the second day there was an increase of 0.128 gram, or 6.2 per cent. In one experiment the SO_3 excretion was decreased on the days in which 3100 cubic centimeters of water was added to the diet, the decreases varying from 0.309 gram, or 20.9 per cent., to 0.016 gram, or 0.81 per cent., for the first day, and from 0.258 gram, or 14.4 per cent., to 0.124 gram, or 6.3 per cent., for the second day.

The course of the P_2O_5 excretion, as influenced by copious water drinking, was distinctly different from that of nitrogen or SO_3. In every instance the excretion of P_2O_5 was increased above the normal on each day of the water period, the maximum excretion occurring, with absolute regularity, on the second day of the increased water ingestion. A daily addition of 4500 cubic centimeters of water, for a period of forty-eight hours, caused an increase of 0.22 gram, or 9.4 per cent., upon the first day, and one of 0.4 gram, or 17.1 per cent., upon the second day. An addition of 3100 cubic centimeters of water under similar conditions caused increases in the excretion of P_2O_5 by the urine varying from 0.011 gram, or 0.43 per cent., to 0.238 gram, or 10.6 per cent., for the first day, and from 0.096 gram, or 3.7 per cent., to 0.459 gram, or 20.5 per cent., for the second day.

There was a constant tendency for the largest percentage of the ingested fluid to be excreted by the urine on the days of copious water drinking. This was indicated by an elimination of 28.5 per cent. on an ingestion of 2300 cubic centimeters of fluid, as compared with an elimination of 90.6 per cent. on an ingestion of 6400 cubic centimeters of fluid. P. B. Hawk (University of Pennsylvania Medical Bulletin, March, 1905).

WHOOPING-COUGH, TREATMENT OF.

Excellent results are reported by the author from the use of fluoroform in whooping-cough. As a rule, the disease lasts about thirty-five days, but with this drug the duration was reduced to eighteen. Another advantage is that even very young infants show no bad after-effects. The solution generally employed contains 2 to 2 $^1/_2$ per cent. fluoroform dissolved in water. Very young infants receive two teaspoonfuls every hour, while older children may take as much as a tablespoonful. The treatment should be continued for three to four weeks. H. Stepp (Therapeutische Monatschrift, November, 1904).

X-RAYS, DANGERS OF THE.

The writer has made use of the following expedients to avoid the injuries which may attend x-ray practice: Every patient is placed in a recumbent position on the operating table, no matter where the lesion may be located, and is protected with sheets of lead foil. A separate mask is supplied for each patient, with an aperture which permits only the exposure of the lesion. This protects the patient from injury when unavoidable movements are made. The exposures are of a definite potency in accordance with the author's method of radiometry. The potency is small at the beginning, and is gradually increased to the desired point. With regard to the operator, the added aggravation of developing solutions should be obviated by the use of rubber gloves. The physiological effects of the x-rays are now so reasonably certain that untoward effects ought not to be expected in the hands of competent operators. With the general adoption of the radiometric technics described by the author the last and greatest danger of the x-rays will have been eliminated. Milton Franklin (Archives of the Roentgen Ray, January, 1905).

ZINC CHLORIDE, CAUTERIZATION BY.

The action of this drug on wounds as a protective against infection has been studied by the author. His experiments were conducted on rabbits and on the bacteria themselves. It was found that even in concentrated solutions the zinc chloride was devoid of antiseptic properties, but that the eschar which resulted when brought into contact with aseptic wound surfaces prevented subsequent infection. The penetrating powers of this substance are so marked that it protects the wound even when applied a full minute after the application of the infectious agent. The slough produced is not a culture medium, for bacteria and other pathogenic organisms cannot be recovered from it for two or three days after they have been applied. L. Brose (Deutsche medicinische Wochenschrift, December 22, 1904).

Book Reviews.

LECTURES TO GENERAL PRACTITIONERS ON DISEASES OF THE STOMACH AND INTESTINES. By Boardman Reed, M.D., New York: E. B. Treat & Co., 1904. $5.00.

Dr. Reed has presented an exhaustive book of over 1000 pages upon the subject of "Diseases of the Stomach and Intestines," almost encyclopædic in character.

The volume is in the form of a series of lectures to general practitioners. The arrangement is much to be commended—a systematic presentation of elementary subjects and diseases with treatment. Part I contains anatomic, physiologic, chemic and diagnostic features; Part II, methods of examination in which little is omitted now recognized as being of utility, including special urinalyses, the examination of fæces and the blood, concluding with a systematic guide to diagnosis.

Part III, methods of treatment are most carefully presented. In glancing over this most exhaustive part of the book it is difficult to see how anyone can escape cure with such an array of scientific and practical measures for relief. In this department alone there are sixteen lectures, each taking up a different form of treatment in exhaustive outline.

The special feature of the book is Part IV, "The Gastro-intestinal Clinic," beginning with the classification of diseases, the various manifestations, phenomena of derangement, symptomatology, disturbances of the visceral inter-relationships, the ptoses, secretory derangements, ulcers and erosions, the relationship of tuberculosis and malignancy; their differentiation, intestinal obstruction, appendicitis, and a series of lectures upon functional derangements, including a full consideration of the underlying causes, infectious, neurotic, secretory, motor, and psychic defects, and diseases of the rectum and anus; bacteria, animal parasites and the relations of gastro-intestinal conditions to other diseases; and finally, a summary of the surgery of the stomach and intestines.

Dr. Reed forestalls criticism in respect to completeness, omitting little which might be needed by the general practitioner or specialist. His views differ little from those current and even where he may differ in his conclusions from those of his readers, he gives good ground for the faith that is within him by ample references to authorities. His own experience is large and varied.

Judging the book from the standpoint of a general practitioner, it can be pronounced one of much value as a work of reference. Practical hints appear on every page. It would take too long to compare Dr. Reed's views on certain detail points with those of others, but represents fairly well current thought and opinion. Of especial value may be noted chapter fifteen, "A Symptomatic Guide to Diagnosis," and "General Consideration on Diet." The index is ample and clear; illustrations are good and helpful.

The book can be safely commended, and from it much can be learned necessary to a full understanding of this large and troublesome class of derangements and diseases.—J. M. T.

Saunders' Question Compends: Essentials of the Practice of Medicine. By William R. Williams, M.D. Philadelphia: W. B. Saunders & Co., 1905. $1.75

This is the last published of Saunders' Question Compend Series, designed for the use of the medical student. The practitioner will find in it little of interest, except that it is of distinct value now and again for anyone to systematize his mind by reading a condensed volume such as this, if for no other reason than to get a perspective upon a large and intricate subject.

The table of contents shows that the book is very comprehensive, including most of the points in medical practice with which it is reasonable to expect the undergraduate to be familiar. The subjects presented are so extremely condensed as to be almost a mere catalogue of salient points. This renders it essential that it be accompanied by some fuller knowledge, such as previous teaching, or the use of an ample text-book. The arrangement of the subjects has much to commend it, but if about twice as large, it would be more useful for most readers.

The reviewer has taken pains to read the book quite extensively, and is struck with the excellent system and completeness of the essential points touched upon; hence it will prove of much practical value to the undergraduate, as others of this series are known to be.—J. M. T.

Disease and Marriage: The Relationship Between Disturbances of Health and The Marriage State. Edited by Prof. H. Senator and S. Kaminer, in association with Drs. G. Abelsdorff, L. Blumreich, E. Eberstabt, A. Eulenburg, C. Ewald, P. Furbringer, M. Gruber, W. Havelburg, A. Hoffa, F. Jolly, E. V. Leyden, A. Moll, A. Neisser, J. Orth, S. Plazzek, C. Posner, P. S. Richter, H. Rosin, W. Wolff. Part III. 596 Pages. New York: Rebman Company. London: Rebman, Limited.

With the exception of syphilis and gonorrhœa,, comparatively little has been written on the influence of disease of the genitalia and of constitutional diseases upon married life. It is true a few scattered articles have appeared in literature. These, however, have been limited mainly to the diseases purely venereal. Not until recent years has any systematic attempt been made to present an exhaustive scientific exposition of this subject, so shamefully neglected, and yet of greatest importance to the welfare of society. The publication of "Disease and Marriage" at this time is opportune, the more enlightened classes are beginning to realize that excepting alcoholism, disease causes more unhappiness and breeds more discontent in married life than all other factors taken together. In America a few attempts have been made to legislate against intermarriage of those physically unfit, but these attempts have been too rare and feeble to accomplish much result. A book presenting true and accurate information may become a powerful factor of good, by forcing upon physicians a realization of their responsibility to humanity and posterity, and by encouraging the passage of laws to control the marriage of diseased persons. The reviewer believes that such a book is now supplied. It is a symposium on all diseases which influence the marriage state before and after. It includes the relation of marriage to gonorrhœa, malignant and non-malignant disease of the genitalia, injuries to the genital organs, gynæcologic conditions, alcoholism, morphinism, nervous diseases, insanity, the influence of occupation upon conception, sexual perversion, psychical impotence, the ethical behavior of a physician toward his patients being treated for venereal diseases, and the social and political significance of marriage. The various sections of the book are in charge of twelve sub-editors, carefully selected, all authorities on their respective branches. The manner of presentation is satisfactory; the facts are given completely and concisely. Some of the minor diseases, like the less important skin affections, are mentioned only to show how they influence marriage, while the more important diseases, including syphilis, gonorrhœa, malignant growths, insanity and nervous affection, are treated in greater detail. In the case of the first three diseases much stress is laid upon the importance of a proper diagnois, and after this the physician should insist on patients following out instructions before entering matrimony. Full statistics are presented to corroborate the conclusion which the various authors formed from their own observation and experience. Much valuable information may be gleaned from these statistics. For instance, in the chapter on the "Influence of Carcinoma on Marriage," six cases are reported, in all of which cancer was contracted during cohabitation, and transmitted from the male to the female sexual organs, and *vice versa.* Strong arguments for the infectiousness of cancer! Each disease is treated in so thorough a manner that it is difficult in so short a space to give the work full credit. The contagiousness of each affection is discussed at length; the various forms it assumes, the prognosis as to cure and as to the advisability of marriage, and the probability of transmission to the offspring. The relation of the different forms of insanity, including the discussion of the advisability of marriage when other members of the family of either of the parties are insane, and the laws governing divorce where insanity develops in the wife or the husband are given in chapter xxii. Sixty-two pages are devoted to the relationship of sexual perversion and psychical impotence to marriage. This chapter includes startling information, novel to all who have not made the subject a special study, including the injurious methods resorted to by both sexes while gratifying their sexual desires; and also includes an account of hermaphrodism and pseudo-hermaphrodism.

In chapter xxiv, the influence of alcoholism and morphinism upon marriage, and the evils resulting, are discussed as well as divorce where cases are incurable; in chapter xxv, disturbances of marriage and conception brought about by occupation, as seen in factory girls, workers in lead and phosphorus, etc.; also a copy of the German laws regulating the amount of time women may be employed at unhealthy occupations. In chapter xxvi, professional secrecy and medical jurisprudance, as related to matrimony, receive attention. Chapter xxvii, deals with the social and political significance of marriage under sanitary conditions. Every physician ought to become thoroughly acquainted with the contents of this book; it is to be regretted that they have not accorded this subject the attention it deserves, and if this book can convince them of their responsibility in urging patients contemplating marriage to postpone doing so until physically sound, it will do much for the alleviation of human misery.

This book is printed with clear, legible type, on good paper. Notes in the margin of each page indicate the subject under discussion. A full and complete index is appended, and all authors referred to are given credit.—W. E. R.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

Lectures to General Practitioners on Diseases of the Stomach and Intestines. By Boardman Reed, M.D., Philadelphia. E. B. Treat & Co., New York. 1904. Price $5.00.——Saunders' Question Compends: Essentials of the Practice of Medicine. By William R. Williams, M.D. W. B. Saunders & Co., Philadelphia. 1905. Price $1.75.——Disease and Marriage: The Relationship between Disturbances of Health and the Marriage State. Part III. 596 pages.

Rebman Company, New York.——Conservative Gynæcology and Electro-therapeutics. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M.D.., Philadelphia. Fourth Edition, Revised, Rewritten, and Greatly Enlarged. Illustrated with Twelve (12) Original, Full-Page Chromo-lithographic Plates; Twelve (12) Full-Page Half-tone Plates of Photographs taken from Nature, and 157 Half-tone and Photo-Engravings in the Text. Pages XVI-468. Royal Octavo. Extra Cloth, Beveled Edges. Price, $4.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.——Eye, Ear, Nose, and Throat Nursing. By A. Edward Davis, A.M., M.D., New York, and Beaman Douglass, M.D., New York. With 32 Illustrations. Pages XVI-318. Size, 5 1/2 x 7 7/8 inches. Extra Cloth. Price, $1.25, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.——Studies in the Psychology of Sex—Sexual Selection in Man. I, Touch; II, Smell; III, Hearing; IV, Vision. By Havelock Ellis. 6 3/8 x 8 7/8 inches. Pages XII-270. Extra Cloth, $2.00, net. Sold only by Subscription to Physicians, Lawyers, and Scientists. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.——Annual Reports of the Department of Agriculture for the Fiscal Year ended June 30, 1904. Washington, D. C., 1904.——Ostitis Deformans. By DeForest Willard, M.D., and W. H. Andrus, M.D., Philadelphia, 1904.——Empyema. By DeForest Willard, M.D., Philadelphia, 1904.——Old Unreduced Dislocations. By DeForest Willard, Philadephia, 1904.——Knee Ankylosis. By DeForest Willard, Philadelphia, 1905.——Some Aspects of Medical Education. John H. Musser, Philadelphia, 1904.——Abdominal Pain. By J. H. Musser, Philadelphia, 1904.——DeWecker's Capsular Advancement Operation. By William Campbell Posey, Philadelphia, 1899.——Associated Movements of Head and Eyes. By William Campbell Posey, Philadelphia, 1902.——Vernal Conjunctivitis. By William Campbell Posey, Philadelphia, 1903.——Unilateral Exophthalmos in Exophthalmic Goiter, with Report of a Case. By William Campbell Posey and W. C. Swindells, Philadelphia, 1904.——A Case of Intense Phlegmon of the Orbit, Secondary to Empyema of the Ethmoidal Cells. By William Campbell Posey, Philadelphia, 1903. ——Prosthetic Surgery, with Report of a Case, Illustrative. Flavel B. Tiffany, Kansas City, Mo., 1905.——Middle Ear Disease in Tuberculosis. By Robert Levy, Denver, Colo., 1903.——The Prognosis of Laryngeal Tuberculosis. By Robert Levy, Denver, Colo., 1904.——Report of a Case of the Invasion of a Fibromyoma of the Uterus by an Adenocarcinoma, Which by Metaplasia Had Assumed the Appearance of a Squamous Cell Carcinoma. By Charles P. Noble, Philadelphia, 1904.——The Nature of the Indications for Operation for Fibroid Tumors of the Uterus. By Charles P. Noble, Philadelphia, 1904.——Fourth Annual Report of the Committee of Inspection Appointed by the Executive Committee of the Post-Graduate Medical School to Review the Work of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-Graduate Hospital, for the year 1904-1905.——Beneficial Bacteria for Leguminous Crops. By George T. Moore and T. R. Robinson, United States Department of Agriculture, Washington, D. C., 1905.——The Prickly Pear and Other Cacti as Food for Stock. By David Griffiths, United States Department of Agriculture, Washington, D. C., 1905.——Injury to Vegetation by Smelter Fumes. By J. K. Haywood, United States Department of Agriculture, Washington, D. C., 1905.——The Development of Single-Germ Beet Seed. By C. O. Townsend and E. C. Rittue, United States Department of Agriculture, Washington, D. C., 1905.——Raspberries. By L. C. Corbett, United States Department of Agriculture, Washington, D. C., 1905.——Essential Steps in Securing an Early Crop of Cotton. By R. J. Redding, United States Department of Agriculture, Washington, D. C., 1905.——The Control of the Boll Weevil, Including Results of Recent Investigations. By W. D. Hunter, United States Department of Agriculture, Washington, D. C., 1905.——The Greenhouse White Fly. By A. W. Morrill, United States Department of Agriculture, Washington, D. C., 1905.——What Forestry Means to Representative Men. United States Department of Agriculture, Washington, D. C., 1905.——Report of the Editor for 1904. By George William Hill. United States Department of Agriculure, Washington, D. C., 1904.——The Cotton Boll Worm: Some Observations and Results of Field Experiments in 1904. By A. L. Quaintance and F. C. Bishopp. United States Department of Agriculture, Washington, D. C., 1905. —Standard of Purity for Food Products. United States Department of Agriculture, Washington, D. C., 1904.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

PSYCHOLOGICAL MEDICINE.

It is in a measure regrettable that the term, psychological medicine, which would be so apt in present-day discussions, should have been put out of service by reason of its professional application to the general field of mental disease. Dr.

Tuke's "Dictionary of Psychological Medicine" does not, as its title might legitimately imply, consider the replacement or supplementing of the ordinary materia medica by psychological doses, but is a general cyclopædia of mental disturbances and matters allied therewith. For the past two or three decades particularly have the psychologist and the physician been called upon to consider the status and the value of the treatment of disease by mental methods, and to consider in a comprehensive manner the place of the mental factor in health and disease alike. The exclusive advocate of "mental healing" has, as a rule, been of another kidney; you may find him appealing directly to religious faith and to systematized prayer; you may find him with emphatic logic glorifying the denial of material ills; you may find him devising peculiar and original methods of spiriting away disease, or, at least, the symptoms thereof. Almost all of these "systems," even the attenuated and telepathic "absent treatment," maintain some slight connection with material procedures, even if it be nothing more than the laying on of hands, or chronometric allowance for differences of longitude, or careful attention to the successive stages of the parting ills, or the calling in of supporting friends to participate in the annihilation of the too solid and disturbing flesh.

In view of all this interest in the theory and practice of the treatment of disease by mental procedures, it is a matter of consequence that the psychologist and the interested members of the medical fraternity should co-operate, the one to aid in the expression of the status of this mental factor in intelligible terms, and the other in the application thereof to reputable and rational forms of the treatment of disease. There is certainly no reason in the fact that a considerable portion of "mental healers" adopt methods and profess views which to the intelligent physician are suggestive (to put it mildly) of ignorance and imposition, why the physician himself should not take advantage in a scientific way of the same actual influences which are thus abused by his less reputable rivals.

In a confidential after-dinner mood, the psychologist may be willing to confess, in the words of a gifted member of the craft, that "psychology is but a string of raw facts, a little gossip and wrangle about opinions, a little classification and generalization on the mere descriptive level, a strong prejudice that we *have* states of mind, and that our brain conditions them;" but in so doing he expects an equally frank baring of the soul on the part of his medical hearers, with the understanding, of course, that both confessions are for home consumption only. It is, then, unfortunately true that with regard to many a problem of neurology and psychology we can, at present, record only the outward workings of obscure causes, and have not as yet succeeded in presenting in a consistent and illuminating manner the fundamental relations which give rise to the phenomena that are observed. Such type of knowledge is familiarly known as empirical, and awaits justification by reference back to a group of illuminating, basal, comprehensive principles. To this class belongs our knowledge in regard to the influence of mental processes and attitudes upon the physical welfare of the body.

There is, however, no justification in this lack of precision of our knowledge for any less careful attention to the practical value of the empirical relations established by judicious observation. Briefly, then, we may not know *why* and *how* mental attitudes contribute so strikingly to make or mar physical conditions, but we may utilize the fact of these relations and study the less obvious and more complete manifestations, feeling confident that in this study, as well as in the practical application thereof, will be found many a hint as to the real nature of the actual underlying connections. It is for this reason that the psychologist looks to the careful physician for an accumulation of such observations as will contribute to a more familiar understanding, even if only on a descriptive level, of this interesting and important psycho-medical topic.

As a general background to the more distinctive and striking examples of mental influence in disease, we recognize the general changes which any sort of being out-of-health is likely to bring about in the mental attitude. We notice the fluctuations of exaltation and depression, of genial excitement and groundless despair, of vague but real mental pain, which the different periods of day and night, the larger rhythms of the seasons, and the fluctuating welfare of the minor concerns of life bring about. And we notice, too, how differently these several things affect or fail to affect different temperaments. To some a trifling illness is actually transformed into a joyous holiday in bed, while with others the reflex of a slight ailment upon the "nerves" is such as to produce a distressing mental condition in which restlessness, worry, irritability, depression, and other disturbances of the mental poise are busily at work. While each one must accept his status between these two extremes on the basis of his own heredity and the acquired control of his mental and moral traits, it is clear enough that the average man and the large group of individuals who fall within the normal variations in this respect, may be decidedly helped by such appeals to their temperament as will for each be most effective in removing these mental obstacles and in establishing a condition most favorable to nature's healing processes. With this as the ordinary status, it becomes more intelligible why, in extraordinary cases, the same relation should be exhibited but magnified *n*-fold. These develop into the "show" cases, often susceptible of brilliant and mystifying cure, in which the disease itself seems to consist in a lapse or fault of the normal flow and interchange of influences between mental and physical conditions. When the dam breaks, and the natural state of affairs is restored, he who happens to be momentarily on duty may, if he be of that ilk, take the credit of the whole, slowly maturing, complex, partly fortuitous, issue.

What is most desirable at present is to bind together the various types of observation, normal and abnormal, trivial and momentous, in health and in disease, so that there may result from the whole a consistent body of evidence which, however empirical, shall furnish a rational guide alike to principle and to practice. The tendency to confine attention to the most extraordinary instances of bodily effects due to mental agencies is not likely to lead to greater insight; such cases remain sporadic and meaningless until associated with a much larger range of comparable instances, in themselves not sensational and doubtless less interesting, but suggesting in their entirety some efficient modes of approach to the underlying problems. Psychologically, the connection between the mental and the bodily factor in conduct must be expressible and observable in ordinary normal relations; for this connection is not one that comes into being in disease or in "freaks," but pervades the everyday working of mental and bodily processes. The sensational cases serve their purpose in that being written so large they command attention and stimulate interest; but they should not distract from the more intrinsically valuable service of the minor, normal illustrations of psycho-physical interdependence.

It is not possible in the present connection to set forth the range and import of these normal relations; but it is possible to emphasize their directive value in any study of the topic. It may also be possible to suggest the trend of the psychologist's mode of approach. He recognizes a wide distribution in regard to the directive or controllable factor in bodily action, as well as in the normal amount of awareness that accompanies various activities; and he recognizes that the connections between these are complex, variable, and yet conforming to types with natural limitations; and he recognizes that there is a natural division of labor between these several ranges of activity, the observance of which is a symbol of normality and health. Beginning with such simple observations as that the more automatic functions are better performed when the will keeps its hands off and becomes only an interested but refraining spectator, he passes to the more complex cases in which these relations are more subtle and elusive, and finally reaches incidents in which the same system of procedure accomplishes results that are noteworthy in themselves and valuable to the practitioner. He notes, for example, that the swallowing operation is a very simple performance until it is done too consciously and intentionally, in which case the pill sticks in the throat and will not go down. He observes the difficulty of a patient's coming under the influence of ether because of a curious resistance to the action which is not inconsistent with an underlying willingness to assist the desired result. He observes how difficult it is to throw off worry or despondency in spite of an underlying desire to get rid of these important interferences with convalescence. The same type of influence affects sensation and brings it about that the toothache disappears when the dentist's door-bell is rung, or that contact with a wooden magnet produces instant release from pain, or that the violent excitement of a fire, or a joyful bit of news restores movement to an apparently long-suffering paralytic, or cures hay fever by brutally revealing that the rose, the presence of which was so irritating, was made of gauze and wire.

It thus becomes clear on the one side that the comprehension, in terms of psychology and physiology, of what takes place in these and similar instances, is not an impossible goal, and it is equally clear that our present partial comprehension of these relations does not interfere with a considerable and elaborate utilization thereof in practice. The procedures of such practice depend upon the discovery of means to influence in more effective ways the relations between voluntary and involuntary, between conscious and subconscious processes. Of all such procedures none is more definite and has a more interesting history than hypnotism. This too, like so many other procedures in this field, has a record of long historical associations with ignorance and quackery, with the propounding of false issues and the demand for miracles. It can also point to a systematic study which began with the simplest types of observations and led to a system of therapeutics, dependent upon the underlying principle of suggestion, which such research showed to be the keynote of hypnotic action. Inadequate as may be the psychology of suggestion, it is sufficiently established to indicate that the efficient working influence is the throwing out of gear of the inhibitory, higher, more voluntary, and more conscious processes which serve alike to direct and to check normal activity. The hypnotic condition thus differs strikingly from the normal in that by the removal of these psychic inhibitions, commands issued by outside suggestion find a more direct and unimpeded channel to the centers of motion and sensation, especially in cases in which they have been too strongly dependent upon complex, and it may be, morbid interferences of an impaired or badly regulated will. It is not because the hypnotic process is in itself illuminating or explanatory, but rather because it is precise, definite, and experimental that it has become a recognized form of treatment in such a large range of minor disturbances. What in one case is most effectively accomplished through hypnotic suggestion, may in another be similarly brought about by suggestion in which faith or confidence or hopefulness or good cheer or distraction of new surroundings furnishes the *"leit-motif."* The motive of all these procedures is to diminish the inefficiency of an attitude that is lacking in spontaneity, common in natural vigor, by reason of being too much distorted by the pale cast of thought. And, moreover, is it necessary to appreciate that such conditions have a peculiar relation to consciousness, that they may exist without the subject's awareness, or even in spite of a half-hearted desire to antagonize their growth. It is in these subtle operations that the physician recognizes many of the permanent and tantalizing symptoms of hysteria and neurasthenia.

On the practical side, the physician's problem is thus the common one of judgment, tact, and ingenuity in determining what influences in any special cases are likely to be most efficacious. The same tact and insight must also be used in discovering the hidden sources of irritation, which are so various, so unrecognized, or it may be so deceitfully withheld, and which none the less stand as the real obstacle between the actual condition and such approximation to the normal as may really be brought about. Forcible removal from such disturbing surroundings, it may be from family and friends, in another case a direct appeal to dormant motives, and in a third, reliance upon change of scene and the charm of new interests—all of these are obviously pertinent examples of psychological medicine, the prescription in each case being successful in proportion to the psychological insight of the physician. That in combination with such treatment the reinforcement of the physical health and the usual allaying of symptoms and building up of tissue, act as a means of supplying favorable conditions for the psychological medicine to work, least needs emphasis.

In this presentation decided emphasis has been placed upon the more ordinary and usual forms of the mental factor in disease, because of the conviction that herein lies the secret of the understanding of the entire range of the phenomena. It is in these rather than in extreme cases of similar activity that illumination is to be found. None the less the extreme instances are in themselves interesting and contribute a type of evidence at once important and worthy of record. The marvels of hypnotism on the one hand and the equally remarkable cures by effective methods of suggestion or mental treatment, are sufficiently well authenticated, in spite of a greater mass of fraudulent and misleading observations, to impress the physician and the psychologist alike. They hold out possibilities of the extension of the psychophysical principle alike alluring and deceptive. In view of the status of present-day psychological medicine, it seems almost inevitable that the future practitioner will appreciate and utilize these influences for the treatment of disease far more generally, intelligently, and successfully than has yet been done; will appreciate how often it "is not the body, but the man is ill." Instead of the old age adage which cast reflections upon the physician's calling, and said that "where there are three physicians there will be two atheists," the proverb is likely to receive a complimentary turn, and read "that where there are three physicians there are two psychologists."

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THE SIGNIFICANCE OF THE SO-CALLED "OCCULT HÆMORRHAGES" IN THE DIAGNOSIS OF CERTAIN GASTRIC AFFECTIONS.

Advancements in our methods of diagnosis are always welcomed by the profession, especially if we are thus enabled by means of some simple test to clear up an obscure point in diagnosis. It is my desire to call attention to a very simple test the significance of which was first pointed out by Boas as a means of detecting minute quantities of blood in the gastric contents and fæces. This investigator showed, that by aid of the well-known Weber test, as well as by Klunge's aloin test, it is a simple matter to detect a minute quantity of blood having its origin in the stomach too insignificant to be seen by the naked eye, and yet which, by its continued persistence, may prove a serious menace to life.

Boas advises the Weber test to be made in the following way: "About 20 cubic centimeters of ether are added to 15 cubic centimeters of gastric contents or to 5 to 10 grams of soft or softened stools. This removes the fats and prevents disturbing emulsions later. About 3 to 5 cubic centimeters of glacial acetic acid are then added to the gastric contents or fæces and the whole is poured into a test-tube and extracted again with ether. There must be no admixture of alcohol, as this disturbs the test. As guaiac dissolves readily in ether it is not necessary to use the tincture. A few grains of finely pulverized guaiac resin are added to the ether extract, the whole is carefully shaken, and then 20 to 30 drops of oil of turpentine are added. The whole is shaken up again and then set aside. The color gradually changes to a violet or blue, rendered still more intense by addition of chloroform. This blue tint is sometimes masked by the brownish color of the fluid and the findings of the test can be controlled by repeating it with Klunge's aloin test. As much aloin as can be taken up on the tip of a small spatula is placed in a test-tube and lightly shaken up with 3 to 5 cubic centimeters of 60 to 70 per cent. alcohol. The acetic acid and ether extract of the fæces or stomach content, prepared as above described, is treated with 20 to 30 drops of turpentine and then immediately afterward with 10 to 15 drops of the freshly prepared aloin solution. In the presence of blood the fluid rapidly assumes a bright red color, which turns to a fairly durable cherry red as it stands. If there is no blood the fluid remains yellow for an hour or so and then becomes a light pink. The color changes may be hastened by adding a few drops of chloroform. Boas makes a practice of conducting the two tests as controls, and believes that the aloin is superior in several points to the guaiacum. It is not influenced by the presence of fats or fatty acids and is sometimes positive when the guaiac findings are dubious."

In his first communication Boas pointed out the fact that that form of bleeding which was too insignificant to be detected by the naked eye, and which he termed "occult hæmorrhage," occurred only in certain gastric conditions. He never found it in the gastric contents in chronic gastritis, hyperacidity, or hypersecretion; it occurred occasionally in gastric ulcer with or without consecutive stenosis; it always occurred in cancer of the stomach, as was shown by an examination in 20 cases.

In a further communication Boas showed that errors due to slight bleedings induced by introducing the stomach tube, causing minute erosions, could be avoided by investigating the fæces rather than the gastric contents; however, in the examination of the stools for these hæmorrhages certain precautions must be taken, namely, to exclude food containing fresh unboiled or medium done meats and sausage from the diet for two days before the test is undertaken, as well as to ensure soft movements by means of Carlsbad salts. Menstrual as well as hæmorrhoidal blood must also be excluded, and hæmorrhages from the teeth, mouth, throat, nose, lungs, and intestines must be guarded against. Koziczkowski has recently advised a restriction in diet to milk, flour, bread, eggs, fruit, and not too much fat previously to applying this test.

Boas and his pupils, as well as others, have confirmed the original conclusions concerning the significance of the so-called "occult hæmorrhages" in the fæces as a most important diagnostic test. In a series of 257 cases of patients suffering with gastric disturbances in which this examination was made, Boas was unable to note the slightest indication of the presence of blood in the fæces in any form of gastritis, hyperacidity, or hypersecretion. Schloss examined 20 cases of acylia gastrica and gastritis anacida, and could not observe any trace of blood at any time. Bleeding is present at times in ulcer of the stomach and duodenum with or without dilatation. Joachim found it in 83 per cent. of 28 cases of ulcer; it was always present in all cases of cancer of the stomach—18 cases in all.

My own observations agree in every respect with the conclusion arrived at by Boas regarding the significance of the so-called "occult" bleeding. Occult blood has never been found by me in any form of gastritis, either acid or anacid; in hypersecretion or hyperacidity without the presence of ulcer or in any form of gastric neurosis. So significant is this fact, that I have frequently been enabled to rely on the constant absence of this sign as evidence sufficient to exclude the presence of ulcer and cancer, and on the other hand as evidence in favor of the presence of either a gastritis or some form of gastric neurosis.

In cancer of the stomach or intestines this form of bleeding is constantly present; in but a very few examinations was its absence noted by me; so constant is this finding, that it serves to differentiate cancerous processes of the stomach and intestines from ordinary inflammations and ulcer. It is found early in the course of this disease, and gives evidence of this condition long before the physical signs of a tumor become manifest.

In ulcer of the stomach blood is found irregularly in the stools. It is most frequently noted when the patient has been complaining of pain, especially before the so-called ulcer cure (rest in bed and a diet mainly of milk) has been undertaken. After this treatment has been instituted for a period of days, the "occult" bleeding disappears. Inasmuch as these findings vary so greatly in ulcer of the stomach, it is necessary to make repeated investigations to determine the exact conditions. We have found this sign a most valuable aid in the diagnosis of this disease, especially in those cases in which the symptoms are not decisive and in which the diagnosis varied between gastralgia and ulcer. In every instance in which the ulcer treatment was undertaken, the improvement in the patient's condition indicated the correctness of the diagnosis and the value of this sign. Occult bleeding has often as much significance as pronounced hæmorrhage and will frequently indicate the presence of ulcer long before visible hæmorrhage is present.

The presence of this sign alone, however, has no significance; but in addition to other clinical evidence, I have found it of such practical value that I should urge a careful investigation for occult bleeding in all obscure forms of gastric disease.

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SUDDEN DEATH.

FROM the earliest times the subject of sudden death has held a subtle fascination for laymen and physicians. The possibility of sudden death overtaking a healthy person has given rise to a fear of impending dissolution that is very general. This fear is so powerful a motive in human affairs that it has been used as a lever by moralists and quacks in all ages. The specialists of ancient days used it to heighten the effects of their celebrations. Many good and great deeds would never have been performed but for the fear of impending death. To the physician it is always one of the great impelling forces that keeps him from becoming careless and lax. How often has the life of a patient been saved by a physician who was keenly alive to this anxiety for his patient's life? Among the thousands of cases of sudden death I have been called on to investigate not a few could have been averted had the physician been properly on the alert. It is the duty of every physician to be watchful for all forms of sudden death and not a little thought is needed, after the physiological facts have been learned, before the mind is ready to grasp quickly and surely the significance of those symptoms and conditions that lead to what is so often spoken of as "sudden death."

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A large number of cases of so-called sudden death should not be so classed; they are merely unexpected. In many cases the dying is quickly accomplished at the last stage, but not infrequently there has been a noticeable delay or arrest of the morbid process, so that if we were familiar with the case in detail we would wonder at the slowness of the lethal process and use some other term rather than call the dissolution itself sudden. Not a few cases, where details are previously known, are given a most unfavorable prognosis, and we often meet those persons who have years before been consigned to an early and sudden death by some over-susceptible diagnostician.

The double lesson of caution from fear of a sudden death and realization of the remarkable tenacity of vital action of the tissues on which life depends, is one that is not easy to learn and the importance of which we too often forget.

The principal groups into which sudden deaths naturally fall are:—

(a) Those occurring in newly presented and unstudied cases to which the practitioner is called for the first time just as the last phase of death is passing under review.

(b) Those occurring suddenly in old cases where new symptoms have unexpectedly developed.

(c) Those occurring in familiar cases where old symptoms have assumed an undue gravity.

(d) A large group where previous study would have been of little aid in meeting the emergency; which group may in time be divided into:—

1. Cases of violence, such as heat stroke, burning, freezing, electric shock, drowning, or mechanical injury.

2. Cases of poison where a fatal dose has been taken, either through the skin or orifices or by injection.

3. Cases of internal accidents, such as concealed hæmorrhages, perforations, or rupture.

Certain physiological conceptions will be of use to us in handling those cases, when seen in the critical period, which would, if left alone, terminate in death. I find deaths occurring in these cases from changes in four great physiologic groups of factors, and these are often interdependent to such a degree that it is more than difficult to determine which of the four was the chief agent in the result, and oftener still is it difficult to decide which of the four was most efficient, because the lesions we find may have been caused by a debility in other organs.

Nutrition stands first in my mind as a most forceful physiologic factor, for no organ can work long if its food supply is cut off or changed seriously. A digestive disturbance, a cardiac depression, or a vasomotor storm would, any or all, give rise to tissue starvation that might prove rapidly fatal, and a hæmorrhage usually does kill by inducing a swift tissue starvation.

Nerve supply stands second as important for the quickest deaths which result from insults to the nervous system, and more old hearts and kidneys give out as a result of faulty or morbid conditions of innervation than many of the books would lead us to believe.

Excretion is a tremendously potent factor which opens up the largest studies of the future, not to be measured by albumin percentages, but by all the phenomena of tissue life in the body; just as the condition of a plant reveals the qualities of the soil, so do the tissues show those of the blood. There must be assumed a grasp of these vital indices if medicine is to be regarded as an art. There must be clear standards, measures of these forces, if it is to approach the limits of science.

Respiration, while in some respects including the functions of both nutrition and excretion, is so important in its resultants that it deserves a special place in our thoughts, provided always we are to be something greater than mechanics, and regard the processes simply as the air-moving devices of the thorax. It means that air is supplied to the tissues, giving full value to the lymph and blood as ultimate oxygen carriers, and to the heart as the main mechanical factor, in addition to the usual concepts of the function of the air passages and thorax.

Under a subsidiary heading we may group the organs which are affected by the four noble forces. They may by themselves cause a marring of that symphony of functions we call health, or, if we must be technical, we may call it a serial symptom complex, first of those organs usually affected; or, again, it may be that the primary cause is a weakening of the heart. Generally the heart is damaged by digestive toxics; frequently it is lashed to an ungovernable energy by an excited nervous system, and occasionally it gives out for mechanical reasons.

A heart muscle which is getting a supply of good, clean blood, shows often a wonderful vitality even after accidents to the valves unless some ignorant meddler has been overburdening it with harmful drugs. Next come the lungs. As a cause of sudden death they are usually secondary in importance to derangements of the central nervous system, the heart or the kidneys, which one or all combined give rise to œdema and congestion.

The simplest form of respiratory arrest is of course wholly of nervous causation. The kidneys are responsible for happenings that often seem strange to the uninitiated, and the "kidney face" is just as truly a type as was the "bicycle face;" and when a kidney grows rebellious after having been imposed upon for years by a much abused digestive apparatus, strange things are apt to happen, which go down in the records of vital statistics as apoplexy and heart disease, because some one has forgotten to use his scanty store of physiologic knowlege. These physiologic principles are needed at the beginning of an analysis of the problem presenting.

Let us suppose a man has fallen unconscious in front of our office; what is it? and what shall we do? Send him to a hospital? possibly; but if we are not too heavily burdened already to take cognizance of the normal actions in the case it will be well to study him closely, thoroughly, and at once. We should apply to him the key supplied by the four dominant physiologic spheres. Test his motor and sensory impulses so that we can be able to tell in five minutes whether his nervous system is supplying normal or abnormal stimuli to the voluntary and involuntary muscles, including heart and lungs and reflexes. Observe the respiration, its qualities and rate so as to determine surely whether alcohol, opium, or other toxic agents are at work. The pulse should be constantly observed so that we may know what effect our tests are having on the cardiac action, and be not in our haste confused by pressure of clothing on the vessels above to mislead our estimate. Observation of skin and mucous membranes will reveal something of positive value not to be found out by any other method. The glands of the skin will help us to estimate the responsiveness of the nervous system.

Temperature observed by the hand will often tell the whole story. The points of observation and test can be gone over in three minutes, and then we can begin to build up the symptom complex of the case and return to our examination for confirmation or correction.

True, we may have spent five minutes on a typical case, but the results will not be so terrible as they would have been if we had made a snap diagnosis and instituted harmful procedures.

Suppose a case (I have records of such) where a pallor and a feeble pulse were thought to be an indication for salt solution and the operator with swiftness pumped a quart of water or saline solution into the body, and was surprised when I pointed out marked œdema of the legs, possibly even of the face. We can even conceive of his expressing indignation that such a line of action could be held questionable. I have seen a case where a quart of salt solution was thrown in while the man was dying of œdema of the lungs, notwithstanding the fact that the œdema had been recognized! Such inconsistencies are little short of homicide.

Again, I have seen a case of internal hæmorrhage treated with large injections of digitalis, with the result that the last drops of blood were pumped out most thoroughly by an over-supported heart and there was a smile of satisfaction on the physician's face because he had treated the case "symptomatically."

How many sins have been committed in the name of therapeutics that might have been avoided had the practitioner but learned to accept physiology as a guide, and applied judgment at the bedside.

Again, another type of error occurs. A woman whose face and lips and nails told me at a glance that she had bled to death, had been given a vaginal douche and turpentine application to the bowels by her attendant, who had not noticed the extreme air-hunger and growing yellow pallor. The woman could have been saved had the attendant but seen all that was obvious before he commenced to use measures which obscured the significant symptoms.

There must be an intelligent grasp of the relationships of the physiological phenomena, and how they may vary; of the normal acts and what these variations mean, and the reading of symptoms. A diagnosis with some of the symptoms left out, because they are not obtrusive or insistent, is apt to add to the list of sudden death in the vicinity.

Too great stress can hardly be laid on the value of a fair concept of the four factors—nutrition, innervation, excretion, respiration—and the clinical study of cases with these in mind. These will give a power to think physiologically which will alone enable one to treat judiciously the existing conditions. The habit of giving a speculative estimate of the values of this quadrate group and of the functions of the organs, the heart, lungs, and kidneys, which will give a power of determining the forces to be relied on for recovery, without which medicine is but the most miserable quackery.

In cases of violence or poison we have new factors to add to those already touched on, but each type would be a large subject in itself.

Occasionally one encounters the case too late to be of any use, and the usual observations should be made as far as possible and of course supplemented by all available evidence, though the greatest caution should be used—accepting statements cautiously, for they are apt to be misleading. Where there has been evidence of crime or negligence, or even a suspicion of them, the authorities must be consulted and there exists a moral and loyal obligation to assist such authorities, and the simple rule is best to treat them as you would like to be treated in their position.

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REMARKS ON THE TREATMENT OF PARALYSIS AGITANS AND CERTAIN FORMS OF CHRONIC ACQUIRED TREMOR.

The relief of the phenomenon tremor has proven to be a difficult task. Medicines directed to the symptom are proverbially unsatisfactory. For the toxic tremors eliminants have some utility. Where hysteria is the basis of a tremor associated causes must be reckoned with; but, however complex, it yields best to suggestion, rational auxillary measures also proving helpful. Some forms of tremor are incurable, particularly those of disseminated sclerosis; but even these can often be mitigated by rightly directed efforts. Hygienic measures accomplish most, and in proportion as they are rationally and persistently applied; also, in respect to the degree of intelligent coöperation afforded by the patient. The etiologic conditions in most chronic acquired tremors are analogous; perhaps more closely so than is generally admitted. We look for some central defects, but the major lesions are probably degenerative changes, beginning or progressing, and chiefly in the periphery. The one disorder frequently met in which tremor is the most conspicuous phenomenon, is paralysis agitans—Parkinson's disease. The practical conditions we have to meet here are (1) progressive weakness, (2) exhausting continuous tremor, and (3) disabling rigidities. Along with these there appears in most cases increasing apathy or disinclination to effort of any kind.

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The disease usually occurs in persons of late middle life in whom degenerative changes are to be inferred, though autopsy findings are not marked or not definite. They are analogous to senile tissue alterations, sclerotic vascular processes in the smaller vessel, the glia, and connective tissue. Nutrition is usually good; organic derangements are seldom obvious; longevity is often little interfered with if fairly comfortable conditions can be maintained. We may also have the disease without the tremor.

It was my privilege some years ago to meet a large number of cases of paralysis agitans, and I made them the subject of two papers—clinical communications. Some of my cases improved pronouncedly and permanently; they would probably have resulted more satisfactorily had it been possible to have continued supervision; the gains certainly would have been more marked could I have elicited a larger measure of personal coöperation. What usually defeated progress was the apathy, the weakness, and the advanced age.

Further experience since the last paper was written has induced the conviction that the measures I then advocated are valuable, deserving a wider application. Charles L. Dana has recently contributed a paper (Cornell University Medical College Reports) in which he recommends a series of exercises with the object of overcoming the weakness and stiffness in the muscles, and to check the tendency to tip forward while walking. A reading of his paper leads me to infer that he has applied some part of my recommendations, but not the most important ones; hence, I am encouraged to rehearse my convictions in outline and express the hope that clinicians will make more extensive use of the principles I emphasize and report their experience for the benefit of sufferers.

(1) The circulation of those suffering from chronic acquired tremor, especially

paralysis agitans, is commonly found to be enfeebled; the heart beats are weak, the pulse tension low, the skin leaky, etc. When this is the case (most of my cases showed those features) tonics are indicated to increase the efficiency of the adrenal system, *e.g.,* digitalin (Merck) in full doses, strychnia, quinia hydrochlorate, etc. These or some of them should be administered continuously or intermittently, especially the digitalin, until the myocardium has recovered nutrition and competence, and the blood distribution is shown to have improved in circulatory tone (Henry Beates), and hence oxygenation (Sajous). (2) Not until this condition is satisfactory can we expect good results from the most definite measure, viz.: passive exercises, whereby the nutrition of the muscles, the motor nerves, and the centers as well, are definitely bettered, followed by increasing active use of the limbs and truncal muscles.

Our chief object in overcoming tremor is to secure muscular competence, freedom from contractures, elasticity of the machinery of motion. Then, and then only, can the nutrition of the various centers and subsidiary centers become amended, the normal activities be gained, and the tremor overcome. I never saw a case of paralysis agitans where the disabilities described were absent. If one should be found then the central lesion probably cannot be controlled. It is practically controllable in proportion as these contractures can be overcome.

It was my endeavor to show (in the aforesaid papers and elsewhere) that we can achieve the highest degree of muscular efficiency in the healthy or diseased only after securing full elasticity of the enveloping structures and ligamentous attachments, and by overcoming irregular tensions. Experience teaches that where this is secured the balance, the strength, the accuracy and force of the muscles returns in proportion to their inherent capabilities. In persons past middle life there are always more or less recognizable contractures.

It is well known that the pursuit of mere muscular exercises, such as the commoner occupations or sports, will not induce this elasticity unless there is involved that kind of movement which makes for the full, accurate stretching of the muscles of neck, trunk, and limbs. Automatic, monotonous repetitions of movement, as labor or sports, tend to induce faulty habits limiting the range of action; the full excursus is rarely attained unless the importance of this principle of fullest stretching is borne in mind. The patient is rarely vigorous enough to follow those pursuits or sports which demand this action, of which fencing is the best, and next in value is the ancient game of bean bag, squash, racquets, and the medicine ball. The use of dumb-bells is notoriously bad, inducing muscle binding or stiffening; hence it is not to be encouraged unless a careful teacher compels the fullest tensions, extensions, and accuracy of posturings. The constant flexor action, the grip of the hand on the dumb-bell is harmful. It is, moreover, rather exhausting;

hence not to be recommended in comparison with the systematic training suggested in my article in the Therapeutic Gazette. This consists, in brief, of first, a course in passive movements, torsions, forceful tractions, overtensions, lengthenings, followed by accurate outreachings, elongations, energetic rotations, to the limit of elasticity and normal joint action.

When the patient has thus acquired fair control of the long impaired normal actions (which are due partly to previous disease and also found in healthy folk, and partly from the effects of the possible spinal disease), he or she should be trained in posturings, using particularly fullest extension for the hands and arms, and fullest flexions for the legs and feet. To avoid aggravating the effects of weakness, usually a marked and disabling feature, many of these are best executed while lying down.

One other measure I have found of great additional value. This is to manipulate the tissues lying adjacent to the vertebræ by gentle repeated pressures. By this it seems we can aid in improving the circulation, hence the nutrition in the cell bodies in the segments of the cord. It is best done by the physician himself. General massage has its value, but less for mere muscle kneading than the passive movements of the joints, the elasticizing of the ligaments, etc.

When the mobility of the thorax admits of it, systematic respiratory education will valuably supplement the oxygen intake and distribution. As soon as strength and elasticity permit, open air employments, such as gardening and light farm work, are most salutory. Always encouragement and cheerfulness is to be insisted on. The simplest active sports should be pursued with what enthusiasm is possible.

J. Madison Taylor,*
Philadelphia.

Cyclopædia of Current Literature.

AGGLUTINATION TESTS, SOME FALLACIES IN.

Without entering into the discussion as to the chemical or physico-chemical nature of agglutination and the bearing this has on the differences in the agglutination reaction and *vice versa*, the writer wishes to point out that in carrying out these tests, a greater uniformity in the technique is required to allow comparisons of the results obtained by different observers.

The susceptibility of an organism to agglutinins increases for the first six months from the time it has been isolated from the animal body and grown on artificial media. Inoculations of animals with broth culture will produce in their sera, beside the agglutinins, precipitins whose reaction in broth culture cannot be distinguished from true agglutination, as the organisms are mechanically deposited in the precipitate. Pseudo-clumping may be obtained by using emulsions of bacteria in undiluted broth and testing against the above serum. The agglutination of a micro-organism varies with the medium in which it is grown, the reaction of that medium, the temperature of incubation, and the number of organisms present in the emulsion. Pseudo-clumping may be produced by sudden changes in the temperature and by the addition of certain chemicals. The addition of carbolic acid or of chloroform as preservatives in an immune serum does not interfere with the agglutination reaction. In using the dried blood test, paper having a soluble gloss should be avoided for collecting the blood. In the author's hands the macroscopic method for determining agglutination has proved the most useful and rapid. Oskar Klotz (Journal of the American Medical Association, April 23, 1905).

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AIR IN VEINS DURING SURGICAL OPERATIONS.

Basing their conclusions on recent clinical operations, and on the results of the careful experiments of Bégouin made in 1898, the authors throw some fresh light on the mechanism and the treatment of the surgical disaster known as air in veins. This rare accident, though as a rule rapidly fatal, may in some instances present a prolonged and less fulminating series of symptoms, and, indeed, may result in recovery. Cases have been recorded in which death, which usually occurs within ten minutes from the first appearance of the symptoms, has been retarded for intervals varying from three to thirteen hours, and the authors assert surgeons, in the course of operations on the neck, have observed the characteristic symptoms of the entrance of air into veins, after having heard the distinct hissing sound, and yet have seen their patients recover after an interval of a few hours.

In discussing the cause of death in cases of air in veins, the authors hold that it exists not simply in obstruction of the pulmonary capillaries, but in an association of pulmonary embolism with weakening of the heart's action, due to distension of the cavities on the right side. The introduction of air into a vein in the course of a surgical operation is held to be the consequence of venous gaping, the result either of a normal anatomical condition as is presented in the neck and axilla, or of a pathological modification consisting in induration of the venous coats or of the perivenous tissues. The part played by this venous patency in the aspiration of air may be supported by a diminution of venous tension resulting from repeated or profuse hæmorrhage. The severity of the symptoms bears a relation to the amount of air introduced into the veins, and the rapidity of this introduction. It has been shown by experiments on dogs that while the sudden and forcible injection of from 40 to 60 cubic centimeters of air will cause death in one or two minutes, a gentle injection of from 8 to 10 cubic centimeters will in most instances be followed by recovery. These results explain why the entrance of air into veins is not always fatal. The air slowly introduced becomes partly dissolved, and if the quantity be not excessive, the heart may continue its contractile action.

In their remarks on the prevention and treatment of this accident, the authors insist on the importance in the removal of a large tumor from a vascular region of securing all visible vessels, and especially dilated veins, before these are divided. As a scientific and promising method of dealing with the serious condition caused by the entrance of air, they suggest aspiratory puncture of the heart. The most suitable part of this organ to be attacked in such treatment would, they state, be the right ventricle, as this, in consequence of the thinness of its walls, is apt to be especially affected by over-distension, and, moreover, aspiration of this cavity may act more directly on the large venous trunks, and possibly remove some of the air. The right auricle, it is asserted, may be readily reached by introducing the needle in the third intercostal space on the left side at a distance of $1\,{}^1/_2$ cubic centimeters from the border of the sternum, and, after the wall of the chest has been traversed, of passing its point toward the mecho-sternal line. This minor operation is regarded as quite free from risk, and likely, if practiced without delay, to be as beneficial on the human subject as it has proved to be on animals. Delore and Duteil (Rev. de Chir., No. 3, 1905; British Medical Journal, April 8, 1905).

ALCOHOL: LOCAL THERAPY.

The author reports the results of his tests with local application of alcohol in a large series of cases of which the histories are given. For the alcohol compresses he employed 50 per cent. of alcohol in some cases and 96 per cent. in other cases, poured on a piece of hydrophilous gauze, folded into eight layers. Most of the patients suffered from erysipelas, while the remainder included tuberculous peritonitis and appendicitis. In erysipelas excellent results are reported. The swelling of the eyelids, the lips and cheeks were favorably and rapidly influenced, and in none of his patients did severe complications set in. In the case of erysipelas a 50 per cent. solution of alcohol should be used, for the more concentrated solutions harden the superficial layers of the skin and prevent its absorption. The author states that in tuberculous peritonitis the alcohol treatment is especially indicated when the disease is accompanied by other forms of tuberculosis, or when an operation is impossible for any reason. The results obtained in appendicitis are most favorable. The author agrees with Filatow as to the therapeutic value of alcohol in this condition, and concludes that in many cases which fail to respond to opium and ice, alcoholic compresses may lead to rapid recovery and assist in preserving the strength of the patient. A compress of 96 per cent. alcohol is well borne by the skin, but only when it is covered with flannel instead of wax paper, for the latter excludes the air. An ice-bag should be laid upon the flannel. When the skin is tender, as in young children, a thin compress of two layers should be employed, and in every case the flannel should be covered with an ice-bag. It was observed that the application of alcohol, aside from its pain-alleviating and resorptive action, succeeded in many cases in aborting abscess formation. K. Walko (Berliner klinische Wochenschrift, February 13, 1905; American Medicine, April 15, 1905).

APPENDICITIS, METHOD OF OPENING ABDOMEN IN.

The writer considers McBurney's gridiron incision ideal for a large majority of the interval operations of appendicitis. If more room is needed the incision may be enlarged, the so-called extended McBurney incision. In nearly every case of appendicitis the writer makes it a rule to enter the free abdominal cavity beyond the appendix and the inflammatory mass in order to examine for secondary abscesses and to determine the condition of the rest of the abdomen. If the appendix mass extends beyond the semilunar line it is better to open the abdomen by a vertical incision through the rectus sheath and separate the rectus muscle or to retract it. If it extends to the middle line or beyond, the author opens in the middle line. The rectus incision for the interval operation is a good one, but has the objection that if drainage is found to be necessary, the oblique and transversalis muscles, when they contract, tend to spread the opening in the rectus muscle and sheath. F. B. Harrington (Boston Medical and Surgical Journal, March 23, 1905).

APPENDICITIS, MORTALITY OF.

To decrease the mortality of appendicitis an early diagnosis is of the first consideration. All troublesome appendices should be removed without waiting for an acute attack. All acute cases should be dealt with surgically in the interval between the onset of appendicitis and the dangerous rupture, without waiting for pus outside the appendix, for peritonitis, for adhesions, or for a possible but remote interval.

Cases of perforation or gangrene, with localized abscess, should be operated on with drainage or removal of the appendix, according to the judgment of the operator. Cases with perforation or gangrene without a wall or adhesion are in still greater need of an outlet for the infection, to lessen the tendency of infection to travel inward. Price, Murphy, Hawkes, and others have shown a better percentage of recovery by the operative treatment of acute perforative peritonitis.

A case of appendicitis should be operated on at any time if the patient's condition will admit of an operation, unless the case is rapidly and beyond a question of doubt convalescing. And in this latter case we should wait until all acute symptoms have passed. Healthy appendices should be let alone.

The proper treatment, as indicated above, does not contraindicate the use of stomach lavage or the withholding of food, and when proper, these things should be employed, with or without operation.

Lastly, life is not the only consideration. Time of cure and after-conditions are important. A patient going through an acute attack without operation is saved by the adhesions. Adhesions are life-saving for the time, but they may be death-dealing afterward. The waiting treatment favors adhesions. The early operation avoids them. An early operation sends the patient home in from ten days to three weeks. Twelve cases treated by the rest treatment show an average of 60.5 days from the onset of the disease to the discharge from the hospital. C. W. Barrett (Journal of the American Medical Association, April 15, 1905).

ASEPTIC OPERATING, POINTS IN THE TECHNIQUE OF.

The author does not regard rubber gloves as an ideal coating, since they not only interfere with delicacy of manipulation, but they excite perspiration, which may at any moment, through a tear or puncture in the glove, convey infection to the patient. Coating the hands with gutta-percha is open to the same objection—a scratch would liberate an accumulation of infectious material. The old way of thoroughly cleansing the the hands and then applying a germicide that will harden the surface and check perspiration, and that can be removed from time to time during a long operation, seems to be very nearly the ideal method of treating a surface that cannot be sterilized except in the most superficial manner.

Since the bristles of the brush cannot enter the pores of the skin, in addition to scrubbing the hands, a certain amount of soaking is necessary to loosen the dirt that cannot be reached. Twenty minutes of soaking in soapy, frequently changed water in a basin is better than washing under running water. After cleansing with green soap, matter that may be insoluble in the alkali is to be removed by brief soaking in dilute acetic, citric, or oxalic acid solution. A further scrubbing with 90 or 95 per cent. alcohol will penetrate deeper, harden the cuticle, and tend to imprison the unreachable staphylococci.

This preparation should be sufficient for a short operation, but for a long one a further scrubbing and soaking for five minutes in a 1 to 2000 aqueous solution of mercuric chloride is recommended. The hardened film is probably worked off during a protracted operation, but it can be renewed by dipping the hands and arms in the mercuric chloride solution every ten or fifteen minutes. The practice of covering the arms with sterile sleeves is open to the objection that the more or less loose folds are apt to catch up dirt and carry it into the field of operation without being noticed, while in the case of the bare arms contact with unsterilized articles is felt by the operator.

With the ordinary preparations for operations it is true that there is danger of the antiseptic solution in use during the operation being brought into contact with and irritating the peritoneum. To exercise due care in this matter the operator should have three basins within easy reach, two filled with warm, sterile water, and one with a warm $^1/_{2000}$ mercuric chloride solution. The hands should be dipped first into a basin of warm water to remove the blood, then into the solution, and lastly into the other basin of water to remove the excess of mercuric chloride.

In the matter of dressings also there is danger from such as do not insure perfect dryness of the skin, for germs require moisture for their development. Dry dressings over peritoneal sutures should be changed every four hours, and oftener, if they become saturated. H. T. Byford (Journal of the American Medical Association, March 11, 1905).

BILE DUCT DISEASE.

Stones should be removed, for if left behind they are very sure to cause subsequent disturbance, and it is known, conversely, that after the thorough removal of stones their recurrence is almost unknown. So far as possible, all disorganized, degenerated, and permanently crippled tissue should be removed; such tissue, when left behind, may become the nidus for subsequent inflammation, stone formation, and a return to the invalid condition. Drainage should be resorted to, for without drainage there is no certainty of the removal of infectious material. J. G. Mumford (Boston Medical and Surgical Journal, March 2, 1905).

CACHEXIAL FEVER, THE LEUCOPENIA OF.

A very marked decrease in the leucocytes is always found in uncomplicated cases of cachexial fever, and when they number below 2000 cubic centimeters this is almost diagnostic of the disease, but may rarely occur in true malarial cachexia.

In cachexial fever the white corpuscles are reduced to a greater degree than the red, so that the ratio falls below 1 to 1000 in all uncomplicated progressive cases. This is rarely so in true malarial cachexia, while a reduction in the ratio to below 1 to 1500 appears to be quite diagnostic of cachexial from other Indian fevers.

The most marked degrees of reduction of the leucocytes, and especially of the polynuclears, is of bad prognostic import, and *vice versa.*

Red marrow tabloids are of great value in increasing the leucocytes, and this increase may take place during the continuance for months of intermittent fever, and be then followed by cessation of the fever and complete recovery.

High remittent fever is accompanied by progressive deterioration of the blood and general condition, but it may be often to a large extent reduced to the less injurious intermittent form by continued large doses of quinine, combined with red marrow. The best results yet reported have been obtained by those who carry out vigorous quinine treatment. Leonard Rogers (British Medical Journal, April 1, 1905).

CANCER IN AND ABOUT THE MOUTH. *

The mortality of cases suffering from carcinoma in and about the buccal cavity (based on the statistics presented in the authors' report) is extremely high, at least 90 per cent. All unoperated cases die sooner or later of the disease, barring intercurrent affections. The duration of life of operated cases as compared with those not operated is in favor of the former by an average of about three and one-half months. The comfort of the individual is distinctly added to (even if it be only temporary) by some sort of surgical intervention; such relief may be either mental or physical.

An *early* diagnosis of malignant disease about the buccal cavity is of the greatest importance, and a moderately radical excision of parts offers the greatest hope of a radical cure, commensurate with the comfort of the patient and the immediate risk to life. The importance of a most radical excision of parts in and about the seat of malignant disease is realized. In general, such extremely radical measures offer the greatest hope of permanent cure. The surgical treatment of malignant disease situated in very many parts of the body should consist of most radical excision. On the other hand, malignant disease may be situated in and about certain parts where extreme radical excision is attended either with great immediate risk to life or may so interfere with the function of the parts that the subsequent suffering and discomfort of the patient, provided he survive the operation, does not warrant such radical treatment, in view of the great probability of recurrence. There are instances where the patient wishes extreme measures to be taken for the purpose of avoiding recurrence, and under such circumstances there is no objection to employing the most radical measures. The risk and discomfort, however, together with the inability to offer much hope of non-recurrence, following the complete removal of the tongue, the inferior maxilla or more or less of the pharynx and larynx, should be weighed and carefully presented to the patient before such radical treatment is undertaken.

When there is extensive invasion of the parts, excision (if done at all) should be undertaken solely with the idea of palliation, without too serious interference with physiological function and without too great immediate risk. H. A. Lothrop and D. D. Scannell (Boston Medical and Surgical Journal, April 13, 1905).

CANCER, NATURAL HISTORY OF.

The author remarks that his clinical experience is confirming him more and more in the belief that senilism, in the widest application of the term, is the primal etiologic factor in cancer. The senile changes may be premature or at the normal period; they may be localized in skin, mucosa, or glands, or they may be generalized, and they may occur spontaneously and normally or abnormally in these parts of the body. He is further convinced that a local, slow, and torpid affection, with mild and insignificant symptoms, may pass into an acutely malignant phase under the influence of depressing circumstances. A number of instances are cited in which an old, mild gastric trouble developed into a rapidly fatal cancer after excessive overwork or overworry. In regard to the curability of cancer, the author thinks that permanent cures can be counted on after early removal of primary carcinomata in certain regions of the skin, especially on the face, and in case of tumors that have developed from warts or nevi. He also believes that the prospects are better in case of spare elderly patients than for younger persons, especially pregnant women, and that metastases, as a rule, obscure the prognosis. It is remarkable, however, that the metastatic tumors are so much more amenable to curative measures than the primary growth.

The importance of hygiene, of regular habits of life and of avoidance of contact with cancer subjects, which may be dangerous for the predisposed, is emphasized. Spontaneous retrogression of metastatic tumors after removal of the primary focus is also liable to occur. The author calls attention again to a method of treating cancer which he published some years ago. It is based on the observation that the individual cancer cells are very short lived. He excludes temporarily the affected limb or organ from the circulation and then tries to flush it through one of its main arteries with an alkaline fluid, washing out the residual blood by a counter opening in one of the main veins. His description of a cancer of the uterus thus treated in 1892 was published in Hegar's Beiträge, vol. i, No. 3. He adds that a promising field for cancer research is in the study of the parts most frequently affected with cancer before such growth occurs. Further important results may be obtained from study of the vitality of the cells of various adjacent tissues separated from their environment. Wentscher has already reported research in this line on the persisting vitality of the cells of the rete malpighii in detached scraps of skin. Study of such cells within twenty-four hours after death might also afford interesting results. It is important to study the favorite locating points of cancer in the lymph and blood-vessels, as Kroemer and R. Freund have been doing for the uterus. W. A.

Freund (Zeitschrift f. Krebsforschunf, vol. ii, No. 1; Journal of the American Medical Association, April 8, 1905).

CANCER, THE GROWTH OF.

Cancer is identical in all vertebrates and in growing accommodates itself in a striking manner to the time limitations imposed by the compass of life in different animals. Under favorable experimental conditions the growth of cancer is undefined, of enormous and, so far as can be judged, limitless amount. Artificially propagated cancer displays all the characteristic features of the growth of sporadic tumors, and is due to the continued proliferation of the parenchyma cells. The author has confirmed this conclusion, originally advanced by Jensen, on his own tumor and on four other different carcinomata.

The artificially propagated parenchyma makes the reaction of the host subserve its own needs. Artificially propagated tumors cause no symptoms in the organism to which they have been added. The power of differentiation is definitely in one direction only, even three and a half years after separation from the original host. The number of chromosomes constant for the healthy body tissues is retained, notwithstanding the recurring reduction of this number to the exact half. The balance of evidence is in favor of the growth being interrupted and not uniform and continuous.

From the standpoint of therapeutics the investigations of the Imperial Cancer Research Fund thus far establish the early surgical treatment of cancer and of the conditions suspicious of cancer upon that experimental and rational basis which has hitherto failed. Artificially propagated tumors produce metastases, as do sporadic tumors. Sufficiently early removal of the local transplanted tumor removes metastasis from the region of possibility and the immediate practical outcome of the whole investigation is a strong experimental justification of early operation in cancer. Many attempts have been made to modify the growth of propagated tumors; they have been, however, purely empirical and must continue so until the fundamental problem which has been outlined has been solved. E. F. Bashford (British Medical Journal, April 1, 1905).

CEREBRO-SPINAL FEVER.

The author concludes that when the difference in virulence in different epidemics is taken into consideration, it is easy to understand how faulty notions of the effects of treatment may gain credence. A review of the subject seems to warrant the conclusion that benefit does follow certain measures and that the most useful procedure is to bring about the best hygienic condition for the patient, that is: (1) Absolute quiet in well-ventilated, darkened rooms, with the absence of all excitement and irritation. (2) Giving the greatest attention to secure the proper performance of the various functions of the body. (3) The trial of the hot baths after the method of Aufrecht in all cases in which they seem to do good. (4) The practice of intraspinal puncture, with drainage when necessary to relieve severe pressure symptoms, to be repeated, if necessary, provided benefit follows the first puncture. (5) The use of antipyrine in cases in which the temperature is raised, not only for the relief of this symptom, but for the mitigation of headache and hyperæsthesia. This drug is also useful in improving the mental state, and it is not followed by depression. (6) The use of opium or the bromides alone, or in connection with antipyrine for the relief of convulsions, pain, hyperæsthesia, and pressure symptoms generally, which are not relieved by the foregoing methods of treatment. (7) The use of mercury when needed for its laxative effect, or to assist elimination. C. G. Stockton (American Medicine, April 1, 1905).

CEREBRO-SPINAL MENINGITIS.

Cerebro-spinal meningitis when first recognized was purely epidemic in character, and is now endemic in large cities. Its method of transmission from place to place and person to person is unknown. According to the latest and best investigators, the exciting cause of the epidemic form is the diplococcus intracellularis meningitidis. And no evidence has been produced to prove that the cause of epidemic and sporadic cases is not the same. The probable entrance of the pathogenic germ into the system is through the respiratory tract, especially that portion covered by the Schneiderian membrane. And its point of attacks and usual seat of greatest activity is the base of the brain, from which it involves other portions of the meninges of the brain and spinal cord. Its action is that of a septic invasion, and its symptoms a combination of toxin poisoning, nerve irritation, and pressure.

The rate of mortality in late epidemics has been about 50 per cent., which may be lowered by a better agreement among the profession regarding methods of care and treatment. Spinal puncture is a requisite of exact diagnosis, but as a method of treatment it is still in the experimental stage and leaves much to be desired. Old methods of treatment may be made effective and reliable if used with decision and pushed to the limit of therapeutic effect. Cerebro-spinal meningitis in its worst form is amenable to treatment. G. G. Speer (Medical Record, April 15, 1905).

CHEST, NEW PHYSICAL SIGNS IN DISEASES OF.

A number of new physical signs described by the writer are considered by him as far more valuable in the diagnosis of intrathoracic disease than diascopy. It is but little known that difference in the size of the pupils is a common symptom of apex tuberculosis. The pupils of the affected side is generally wider, since the sympathetic nerve is irritated by the inflamed pleura. Another valuable sign is the behavior of the veins of the chest if an expiratory effort is made with closed glottis, as in Valsalva's method. Normally the vessels on both sides swell equally, but with tumors, aneurisms, etc., the veins which are affected by the compression, will be more prominent. Normally, the pupils will contract somewhat during expiration and dilate slightly with inspiration; with Valsalva's method, there will be a gradual, slight dilatation during the deep inspiration preceding the expiratory effort and a gradual, slight contraction during the latter. The following variations occur: Only one pupil will show the normal contraction; the other will dilate. On the side of the latter, pathological lesions of definite localization will be found in the thorax. If both pupils dilate instead of contracting during forced expiration, the disease is bilateral. If there is a difference in the size of the pupils during normal respiration and the dilated pupil widens still more during Valsalva's experiment, while the contracted one will become normal, intrathoracic disease of the wide pupil is probable. If the pupils differ in size with quiet respiration, but dilate with Valsalva's method, bilateral intrathoracic affection is probable. If the smaller pupil becomes equal in size or larger than the second one, the disease probably also affects both sides, if local disease or organic disease of the nervous system can be excluded.

Absence of all these phenomena does not argue against intrathoracic disease. The percussion note obtained over the manubrium sterni is also of the greatest value. In real or inflammatory tumors of the mediastinum there will often be dullness with closed mouth and dull tympany with open mouth, or dull tympany with closed mouth and Wintrich's change of percussion with open mouth. If the posterior mediastinum is chiefly affected, the note will be purely tympanitic with closed mouth, with distinct Wintrich's change on opening the mouth. A. Grober (Deutsch. Arch. f. klinische Medicin, vol. lxxxii, Nos. 3 and 4; Medical News, March 18, 1905).

DERMATOLOGY, SOME NEW THERAPEUTIC MEASURES IN.

As a general rule, in the treatment of chronic and obstinate affections of the skin, the object to be aimed at is the production of reaction. So far from its being an accident to be avoided, the author thinks that it is a most important part of the curative process. Of course, there must not be any excess of zeal, or the overwhelming force called into play may be as destructive as a too powerful ally brought in to suppress a rebellion. The means must in all cases be precisely adapted to the end that is aimed at. It would, for instance, be unjustifiably rash to run the risk of poisoning a patient with chrysarobin to cure a small patch of psoriasis on the elbow. Caution is particularly necessary in the use of the x-rays, which, as every one knows, may, if used without strict precautions, cause necrosis of tissues, even extending through the thickness of a limb.

It is better as a general principle to produce reaction by a local application, but where this is found to be impossible an attempt should be made to excite it by means of agents within the body.

The author does not wish to be understood as holding that the whole or even the essential part of the curative process consists in reaction alone. There may be other factors which stimulate the vital processes into healthier activity, produce chemical changes, destroy parasites, or render the soil unsuitable for their growth, or make an environment in which they cannot live, or act in some way at present totally unknown.

The active principle in the cure may be generated or brought into operation by the reaction, and different kinds of reaction may have special functions. Much, too, must depend on the manner in which the reaction is excited; it is probable that a certain kind of reaction is adapted to a particular disease. This field of clinical and pathological research is as yet almost virgin soil, which will repay cultivation. Malcolm Morris (British Medical Journal, April 1, 1905).

DIABETES, ETIOLOGY OF.

The pancreatic theory of the origin of diabetes rests upon a hypothetical internal secretion having its origin in the islands of Langerhans of the pancreas, and which may act in one of two ways, either first, by acting on the sugar in the blood so as to convert it into some new substance for final assimilation by the tissue cells, or second, by antagonizing or neutralizing some substance present in the body, probably toxic in nature, which tends to prevent this change in the blood-sugar. In either instance this internal secretion is absolutely essential to carbohydrate metabolism, and its absence brings about that chain of symptoms which is denominated as diabetes. The islands of Langerhans may be congenitally lessened in number, so that there may be all gradations from an idiosyncrasy to alimentary glycosuria or to a diabetes developing in very early life.

Chronic pancreatitis, analogous to interstitial nephritis or hepatic cirrhosis, and often associated with either or both, is not always accompanied by diabetes; when it is, the latter is usually a late product following the final invasion of the islands by the progressive growth of the connective tissue; not infrequently the greater part of the acini being almost completely atrophied before this takes place. Chronic pancreatitis of the intra-acinar type is much more apt to be accompanied by diabetes because of the much earlier invasion of the islands. Other changes affecting the islands, such as an apparent hyaline degeneration of the cells, obscure in origin or atrophy, the result of pressure from neoplasms within or without the pancreas, are not infrequently associated with diabetes.

Lastly, alcohol, syphilis, etc., may be etiological factors indirectly by producing one or the other forms of pancreatitis, but possibly some other toxic substances may act directly by inhibiting activity of the island cells or by antagonizing their secretion.

Unfortunately, there remains a certain per cent. of cases in which one may find no sufficient lesion whatever of the pancreas or elsewhere, and therefore we must confess the possibility of other factors in such as nervous hepatic, etc., unless, indeed, in these the absence of lesion may be explained by the discovery of the presence of a toxin acting in the manner just stated above. J. H. J. Upham (Columbus Medical Journal, April, 1905).

DIPSOMANIAC PHASES.

A change of scene is necessary in the treatment of dipsomania. The patient comes to associate certain changes of his physical and intellectual breakdown with his ordinary occupations. This vicious circle must be broken up by outside influences. In most cases of nervous disease some changes in the state of nerve conductivity are appreciable. As a rule, hypertonic conditions precede attacks; these are to be taken as part of a neurasthenic process. Later on this feverish activity brings about exhaustion, which is more or less a matter of systemic concern. In any event, the plus condition is factitious and not a positive gain.

In the cerebral organism undoubtedly certain psychic circuits become established—those of the moral and higher intellectual values. Alcohol and other narcotics tend to break down this evolution. On the other hand, it is conceivable that an inordinate associative power may create an overplus of such higher intellectual values. The continuity of protoplasmic organism makes for tissue; psychic continuity is thought. In certain morbid processes excessive and improper tissue organization occurs. In neurotic individuals, instead of a diminished psychic activity, an actual excess of ideation may be noticed. This may be along lines of ordinary or extraordinary correlation.

But, while certain extremes of environment are prejudicial to tissue continuity, so certain adventitious elements or excessive psychic activity may not make for the clearest consciousness. It may be asserted safely that attention and apperception are elements of the higher consciousness and are the result of more or less perfect balance and superior coördination of psychic circuits. In neurotic individuals — epileptics, neurasthenics, dipsomaniacs, and the alienated in general—we might expect to find pathological circuits established in the intellect whereby certain reflex currents may be set in action, appreciable to the self or reflective consciousness, but out of its ordinary control. Dreams and the subconscious mental activity may be borderland effects of a similar exhibition.

In looking about for the reasons of these changes, either vasomotor and vascular modifications or essential nervous pathological processes must be laid hold of. In protoplasm there are four facultative aspects, namely, contractility, irritability, nutrition, and reproduction. In all the higher organized tissues these four are fundamental. Essential changes must be due to modifications of these factors. A great many causes, intrinsic and extrinsic, are to be looked for as modifying influences. The effect on the individual of the four fundamental protoplasmic faculties may be summed up throughout his tissues as *(a)* the initiative reflex, *(b)* the temperamental reflex, *(c)* the nutritive reflex, and *(d)* the sexual reflex, respectively. These work out their influences according to the special nature of the tissues involved. It may be just as well when our knowledge of the influence of nutritive and therapeutic values can be extended to include their effects on the primitive protoplasmic powers and the organic reflexes therefrom.

It is the duty of the physician, in the matter of dipsomaniacs, as well as of other borderland cases of alienation, to educate public sentiment and to secure for them adequate places of treatment and opportunities of protected environment. Seclusion in a lunatic asylum is not the thing. The dipsomaniac has to sustain enough loss of self-respect without having that pressure added too. Cases of transient mental affection ought by no means to be associated with chronic or disagreeable manifestations of intellectual or nervous disease. The author believes that relapses in melancholic cases may justly be attributed to the regimen or associations with which they have been made to feel the disgrace of such sickness. A certain attitude toward mental cases is very keenly appreciated by them, even if they are "insane."

The dipsomaniac may be, and usually is, of enough intelligence to feel his situation deeply, and the open disgrace of alcoholism, and his belief in the impossibility of taking it from the memory of others, let alone himself, increases the chance of recidivism.

In treatment nothing equals the expulsive power of a new affection. The patient should be found something safe, honorable, and interesting to do—something that is suitable for a patient of intelligence, but of neurasthenic trend. T. H. Evans (New York Medical Journal and Philadelphia Medical Journal, April 1, 1905).

EPILEPSY, PROGNOSIS OF.

The author reports his observations on 516 cases of epilepsy. All cases which showed any coexistent complication, such as organic cerebral disease, and all cases of idiocy and pronounced imbecility were eliminated, and any transitory amelioration resulting from medicinal or other treatment was checked by fixing the minimum period of observation at two years.

Sex plays little part in the general prognosis of epilepsy. Rather more males than females show arrest of the seizures, but at the same time the former sex gives a greater percentage of confirmed cases. As to the influence of a hereditary disposition, it would appear that there is as great a chance of arrest of epileptic fits in those who have, as in those who have not, a known family history of epilepsy. In those who have a hereditary history the chances as to whether the fits become arrested, improved, or confirmed are in any given case about equal. As regards general improvement, more is to be expected in those who have no hereditary disposition, while a considerably smaller percentage of confirmed epileptics is to be found among those who have no family predisposition to the disease. Epilepsy commencing under 10 years of age is least favorable for arrest or improvement, and most favorable for the production of confirmed cases. In those in whom the disease commenced during the period of puberty is to be found the greatest percentage of confirmed cases. Between the twenty-first and twenty-fifth year of age there is a steady diminution in the percentage of arrests and a progressive increase in the percentage of confirmed cases. After the latter age there is again a diminution in the number of confirmed cases, while senile epilepsy is essentially a tractable disorder. The earlier a case is brought under systematic treatment, the more hopeful the prognosis and the greater the probability of improvement. The longer the interval between the attacks, the greater the prospect of arrest or improvement.

The greatest percentage of arrest occurred in cases of grand mal. Then followed the cases of the combined grand and petit mal, while the least favorable were the cases of petit mal occurring alone. Long periods of arrest, though as a rule indicating a favorable prognosis, are not synonymous with the cure of the disease, long remissions may occur under bromide administration, to be followed by a relapse when the administration of the drug is discontinued. On the other hand, a remission of long duration may be broken by an accidental circumstance, such as a blow on the head, a fall, childbirth, or an acute inflammatory disorder. In order to obtain the percentage of cures the writer took only those cases which were under observation for a period of at least nine years. They form a total of 147, of which 15 were arrested for nine or more years, giving a percentage of 10.2 cures. Of the series of cases in which the disease was arrested, somewhat over 50 per cent. showed arrest within one year of treatment. W. A. Turner (Boston Medical and Surgical Journal, February 16, 1905).

GALL-STONE DISEASE.

In a series of 1000 operations for gall-stone disease, extending from 1891 to 1904, the entire mortality (including all patients who failed to leave the hospital alive, no matter after how long a period) was 5 per cent. In the benign series, 960 cases, 4.27 per cent. died; of the 40 malignant cases, 22 per cent.

succumbed. Where the disease was limited to the gall-bladder the mortality was 2.4 per cent. Of the benign common duct operations 11.7 per cent. died in 137 cases; the malignant were discouraging, as few were really benefited. In two cases of cholecystectomy malignant disease was found by microscopical examination; both have remained well (over 2 years). Next to malignancy and acute perforative infection of the gall-bladder and pancreas, the most serious thing that can happen is involvement of the common duct of the liver—mortality of 2.4 per cent. (in 820 cases) *versus* 11.7 per cent. (in 137 cases).

Cholecystostomy is a safe operation, a removal of the viscus only being performed under certain conditions. Cystectomy should be done when the bladder is cystic or when a stone is impacted in the cystic duct (danger of stricture), if the duct is injured during removal of a calculus, if the bladder is thickened. If bile is found at time of operation drainage may be practiced. The authors look upon cholecystitis without stones with suspicion and palpate duodenum, stomach, pancreas, right kidney, and appendix. The gall-bladder should be thickened, the neighboring lymph glands enlarged, the bile tarry, and the mucosa covered with fibrous specks before the diagnosis is allowed.

In jaundiced patients with symptoms of liver infection, drainage of the bladder is indicated. Only 2 out of every 5 cases have shown necessity for performing a cholecystectomy and then for the conditions mentioned above. The seriousness and high mortality of common duct surgery does not depend upon the difficulty or long duration of the operation, but upon the jaundice and the infection which may extend to the minutest ramifications of the bile ducts. When the stone passes into the duct, infection and jaundice are well marked, but during the interval the mortality was no more than 2 per cent. Most of these patients have, however, before they are seen, either passed the stage of intermission or never have it. The ague symptoms, with increasing jaundice, decline, moderate pain and nausea, are pathognomonic. Extreme bile stasis invites post-operative infection, while petechiæ are usually followed by death from capillary oozing. Calcium chloride before operation was regularly used, but its effect is doubtful.

Those patients with extreme obstructive jaundice, without bile in the passages, the common and hepatic duct containing clear fluid, all died—the liver seems put out of action. In earlier stages of this condition the ducts contained a thick flocculent bile of greenish color; half of these recovered.

No stones reformed in the gall-bladder after cholecystostomy, but in two cases common duct stones were found, once after gall-bladder stone removal, once after common duct. Liver duct stones were always due to blocking of the papilla by a gall-bladder stone. In the 1000 operations the common duct was involved in 14.6 per cent. W. J. and C. H. Mayo (American Journal Medical Sciences, March, 1905).

GASTRIC HÆMORRHAGE, TREATMENT OF.

From a survey of the different methods of treatment for gastric hæmorrhage, it would seem that after palliative treatment has failed to effect a cure in a reasonable time, and in all cases in which three or more profuse acute hæmorrhages have occurred, that surgical treatment is demanded. Of the various methods of surgical intervention, unless distinctly counterindicated, the direct method should be preferred. The indirect method is indicated when the direct cannot be carried out, and sometimes as a supplementary operation after the direct procedure. Of the direct methods, the choice will lie between ligation of the mucous membrane, excision of the ulcer, or pylorectomy and Andrews's operation. Of the indirect methods, gastro-enterostomy will be the operation performed.

The mortality rate to be expected after radical operation will depend upon various conditions, such as the previous history and the present condition of the patient, the number and character of the hæmorrhages, and whether the operation is being undertaken as a prophylactic or a life-saving measure. F. G. Connell (American Medicine, April 15, 1905).

GASTRIC SECRETION, INFLUENCE OF SODIUM CHLORIDE SOLUTIONS ON.

The author experimented on dogs with gastric fistulæ, according to Pawlow's method, with a view of determining the influence of mineral waters containing varying percentages of sodium chloride upon the gastric secretion. He found that hypotonic sodium chloride waters increase the secretion of hydrochloric acid, and of the gastric juice. Hypotonic mineral waters containing calcium bicarbonate, on the other hand, have no appreciable effect on the gastric secretion or the excretion of hydrochloric acid in the stomach. The first class of waters mentioned are, therefore, indicated in diseases with diminished gastric secretion, while the last named class are suitable for cases with an increased secretion of hydrochloric acid, merely as mild stimulants to the stomach. One of the author's students, Coleschi, experimented clinically in patients with the same results as were obtained on dogs. The results obtained by Coleschi showed that hypotonic sodium chloride waters were more efficient as regards the increase of gastric secretion than hypertonic waters of the same class. Therefore, waters containing sodium chloride and hypotonic to the blood serum of normal man are especially adapted to the treatment of gastric diseases associated with a lack of gastric secretion or of hydrochloric acid secretion. P. Casciani (Riforma Medica, March 4, 1905; New York Medical Journal and Philadelphia Medical Journal, April 15, 1905).

HÆMOPTYSIS, TREATMENT OF.

Besides the usual rest for both body and mind, no food except cool drinks or soups, and small scraps of ice during the first few hours, with an ice-bag to the lung or a compressing bandage, the writer advocates subcutaneous injection of gelatine. His experience has shown it to be very valuable. He warns against morphine or anything of the kind, unless to relieve a distressing desire to cough. Another valuable adjuvant is constriction of the limbs. The constriction is applied loosely enough to permit the influx of arterial blood, but not the efflux of the venous blood. This holds the blood in the limbs and thus reduces the blood pressure in the lungs. Operative treatment should be considered as a last resource when all other measures fail. H. Hochhaus (Deutsche medicinische Wochenschrift, January 31, 1905).

HÆMORRHOIDS, SURGICAL TREATMENT OF.

Great care should be used in the preparation of the patient and in securing asepsis. The hæmorrhoid to be operated upon is grasped with a tight clamp from side to side, lifted gently from its attached aspect by an assistant, while the operator with a knife makes an incision on either side of the tumor, parallel with its long axis, through the mucous membrane above, and the skin below. The two incisions should meet at a very acute angle below, and should invade the skin only enough to make this angle and avoid producing an awkward fold or tag. The tumor with the surface included by the incision is now to be dissected up with the knife or with straight sharp scissors. This dissection must include the vessels of the hæmorrhoid, but no more surrounding tissue than is necessary. The incisions can now be continued upward on either side, always converging to a point just above the hæmorrhoid. The small pedicle will be found to contain the principal artery of supply and emergent veins. This should be tied at the highest point, but the hæmorrhoid should not yet be cut away. Every bleeding vessel in the wound should be tied or twisted, and the wound closed by continuous suture up to the base of the pedicle, when it is cut away. A second or third hæmorrhoid may be removed in a similar manner. A suppository containing opium should be introduced and opium given internally at intervals so as not to allow the bowels to move until the sixth or seventh day. The dressing is very important if œdema of the lower angle of the wounds, pain, and delay in healing are to be avoided. It is claimed for this operation that it is absolutely safe; that it is radical; that neither ulceration nor stenosis ever result from it; that convalescence is painless, and that cure is obtained with a minimum loss of time. Charles McBurney (New York Medical Journal and Philadelphia Medical Journal, March 4, 1905).

HERNIA, RADICAL CURE OF.

The Bassini operation, though the most reliable and the most favored method for attaining a radical cure of inguinal hernia, is apt in by no means a small proportion of cases to be followed by relapse. Failure of the operation is attributed in some cases to difficulty in closing the gap in the muscular wall of the abdomen, and in others to the results of suppuration and of accumulation of blood in the wound, to too rapid absorption of the suture material and to tearing away of the muscular tissue from the sutures in consequence of too much tension, or of a too brief rest of the patient in bed after the operation. Relapses of the second category can be prevented by strict observance of general rules in practical surgery; such, for instance, as rigorous asepsis, careful hæmostasis, a right selection of suture material, prolonged confinement to bed during the after-treatment, and a careful administration of the anæsthetic in regard to the prevention of violent muscular movements in the course of the operation. The first-mentioned cause of relapse, on the other hand, cannot be overcome except by a thorough and successful endeavor to restore the normal anatomical conditions, and by an efficient method of establishing a permanent closure of the inguinal canal at its weak parts. The author advocates the method recommended by Bassini, but disregarded by many surgeons, of stitching to the back of Poupart's ligament the outer margin of the rectus muscle exposed by division of its facia. The modification devised by the author is directed mainly to the prevention of a recurrent hernial protrusion along the intramuscular portion of the cord. To attain this object he stitches in the first place the upper margin of the divided aponeurosis of the external oblique to the posterior surface of Poupart's ligament, leaving a narrow slit for the transit of the cord well to the outer side of the internal ring, and he afterwards incloses the cord in a narrow passage formed by bringing over it the lower flap of the aponeurosis, which is secured in its overlapping position by sutures. Pólya (Zentralblatt für Chirurgie, No. 9, 1905; British Medical Journal, April 8, 1905).

INTESTINAL AMEBIASIS, TROPICAL.

A variety of pathological conditions may produce symptoms of appendicitis in intestinal amebiasis, and it is difficult and often impossible to differentiate these during life. They are produced most frequently by lesions in the cæcum without involvement of the appendix where surgical intervention is contraindicated. Somewhat less often such symptoms follow aggravation of an existing chronic appendicitis due to other causes, by the continuation of inflammation from the cæcum, and nearly always without amebic involvement of the appendix. Operation is rarely found to be necessary, provided medical treatment of the disease is rationally administered.

In a small number of cases, such symptoms are due to amebic involvement of the appendix as a continuation of a similar process from the cæcum, and early operation is indicated. In a minority of these appendectomy may be satisfactorily performed, but more often the operator will find a gangrenous cæcum and increase his mortality rates.

In 150 necropsies there were two cases where operation would probably have saved or prolonged life. One of these was amebic appendicitis without extensive ulceration in the cæcum, and the other a pericæcal amebic abscess. A surgeon should be called in consultation in all cases of intestinal amebiasis with symptoms suggesting appendicitis, and questions of operation decided only after careful consideration. W. E. Musgrave (Journal of the American Medical Association, April 8, 1905).

INTESTINAL BUTTON, SOLUBLE.

One of the great disadvantages to the use of mechanical supports in performing intestinal anastomosis is the uncertainty that the support will be discharged after it has fulfilled its function, it being sometimes necessary to perform a second operation for its removal. If a button could be obtained which would be easy to manipulate and which would remain *in situ* for the necessary length of time without, in the meantime, injuring the intestine and then undergo solution, the principal objection to this method of intestinal union would disappear. After many experiments, the author concludes that gelatine which has been treated with chrome alum meets these requirements. It can be prepared in such a manner as to be more or less resistant to the action of the digestive secretions according to the activity of these in the part operated upon, or to suit the particular purpose the surgeon may have in view. The method officing the support is almost the same as that employed in using Murphy's button. P. Paterson (Lancet, April 1, 1905).

INTESTINAL OBSTRUCTION AFTER SUPPURATIVE APPENDICITIS.

The author publishes a table of six cases treated by Sonnenburg, of intestinal obstruction from adhesions after suppurative appendicitis. This form of mechanical obstruction occurring sooner or later after appendicitis, whether treated or not by operation, is, the author states, a rare complication. It is usually the result of multiple adhesions formed by chronic peritonitis set up by small encapsuled inflammatory deposits, or by a large and single pelvic abscess. The symptoms of obstruction are, as a rule, so well marked that there is no difficulty in making a sure diagnosis at an early stage. The treatment can only be a surgical one; the prognosis being by no means bad and the prospects of the operation being the more favorable the sooner it is performed. The operation of election consists in laparotomy, separation of all adhesions, closure by suturing of any serous defects, cleansing with saline solution, and complete closure of the external wound. The median incision is preferred, as it affords the most ready access to the adhesions which may exist in any region of the abdominal cavity. If the condition of the patient at the time of operation be unfavorable; if it be found impracticable to divide all the adhesions; or if a purulent deposit be found in the abdominal cavity the opening of which would probably set up peritonitis, it would be advisable, the author holds, to open the small intestine and to establish a temporary fistula in the middle line, with the view of undertaking a radical operation and closing this fistula at a later and more favorable period. The formation of adhesions after suppurative appendicitis may, it is suggested, be prevented by direct and early surgical treatment of any large abscess. Federmann (Archiv f. klin. Chir., bd. 76, heft 4; British Medical Journal, March 25, 1905).

INTUSSUSCEPTION IN CHILDREN.

The author has operated in 18 cases, and the advantages of operation are now generally recognized. Fourteen of the patients were under 1 year of age. In 16 a tumor was felt through the abdominal wall or per rectum. Routine examination under an anæsthetic is always desirable in suspicious cases. All those cases in which the lesion had persisted less than forty-eight hours were reducible, reduction being facilitated by very early treatment. Ten of the intussusceptions were single and ileocæcal, one was single and enteric. Seven were double, 3 being colic ileocæcal, two ileocolic-colic, two enteric ileocæcal. In one case there was probably a triple intussusception. In 17 cases primary laparotomy was undertaken as quickly as possible, in 1 inflation had been twice tried without success. The incision was, as a rule, on the right of the middle line, its center being at or below the level of the umbilicus. The combination of inflation with laparotomy is not approved. The intussusception can often be reduced by a finger in the rectum as high as the iliac colon, where it can be easily treated through the abdominal incision. Until the reduction reaches the ascending colon it is performed partly out of sight; the intussusception is then delivered from the abdomen. The escape of the intestines from the abdomen should be avoided as far as possible. When eventration has been compulsory, the abdominal wound should be widely opened and the intestines returned, coil by coil.

Six patients died from shock and toxæmia within twenty hours after the operation; a seventh died on the fourth day, 2 more died on the twenty-third day, but only indirectly from intussusception. A number of the cases were gangrenous and offered no chance for recovery. There are remote as well as immediate risks from intussusception, and recovery from the acute illness may be more apparent than real. When the intussusception is irreducible, gangrene being present, resection is preferable to the formation of an artificial anus. Fagge (Annals of Surgery, March, 1905).

LEPROSY, PATHOLOGY AND TREATMENT OF.

The antagonism which has been shown to exist between certain pathogenic organisms having been pretty thoroughly worked out and classified, is beginning to be a groundwork for most important researches. The author has observed that the bacillus of tuberculosis can be made to grow very rapidly by eliminating the salts of chlorine from the nutrient media. Chlorine, however, is so universally distributed, that the removal of these salts proves by no means an easy matter. Were it not for the fact that they could be removed with ease by chemical processes, except in this particular instance, where such processes would ruin the nutrient media, the problem would not be so difficult. The bacillus tuberculosis will grow in a fluid of low nutrient value, but one prepared by a distillation of extract of beef, and containing only the volatile substances of the beef by passing steam from an autoclave through the extract, and so will the germs of leprosy and the bacillus of Lustgarten. In this medium a growth of tuberculosis germs can be had in from one to three days and the leprosy in from three to five days. It is, however, very difficult to obtain a solid medium on which to grow the bacillus, as agar contains a large quantity of chlorine. The writer succeeded in preparing a satisfactory medium by dialyzing nutrient agar in frequently changed, warmed, distilled agar. The bacillus of leprosy grows at first as a white and later a yellow or brick red, curly thick growth on the surface of the agar, very much as the bacillus of tuberculosis grows on the surface of glycerinized nutrient agar. From these cultures the author has prepared a toxin which he calls leprolin. This is prepared in similar lines with tuberculin. Leprolin prepared in this way will produce a powerful reaction in case of leprosy, which will last for three days or more. The author has prepared 500 doses of leprolin and has injected it in 120 cases of leprosy and in each case there has been the same reaction. Leprolin is now being used in 30 different places in India, but owing to the difficulty of preparation, only 20 doses per diem can be made with the present outfit. Reaction of leprolin may come on very soon after the injection, the temperature running up to 104° F. The dose now is 10 cubic centimeters of a glycerinated preparation. The most remarkable effect of the injection is the suddenness with which sensation returns in the anæsthetic patches. It further relieves the shooting pains of the limbs and joints and causes a disappearance of the feeling of weight in the legs. It makes the rough skin smooth. Areas which had been anæsthetic before become tender to the touch. It causes ulcers to heal, sometimes after one injection. The same leprolin and the same preparation of the same culture will not always produce the same reaction in all cases of leprosy. As the results of treatment, it seems certain that four cases have been permanently cured. The number of cases now under treatment in Burmah is about 100. The author refutes the theory that the organism can enter the body through the consumption of badly cured fish, the demonstrated aversion of the bacillus of leprosy to salt proving beyond peradventure that it could not possibly be contained in the fish so often referred to. E. R. Rost (British Medical Journal, February 11, 1905).

ŒSOPHAGUS, NEW SUTURE FOR.

The writer relates that experiments on dogs and on the cadaver to make and then to cure a fistulous opening between the œsophagus and the trachea have proved successful. The arteries in the thyroid gland were ligated and then the gland detached to render it movable. The next day the gland was drawn to the point where the sutures had been applied in the œsophagus and trachea, and thus reinforced by the body of the thyroid gland. The dog thus treated was completely cured in a few days, the wound of the œsophagus having rapidly healed by primary intention. By this utilization of the thyroid even large defects in the œsophagus might be stopped. The author used a rubber button to keep the fistula open. The thyroid gland was fitted in between the sutures in the trachea and œsophagus and was held in place with a tampon and a few sutures in the skin. Recovery was rapid and complete and the anatomic healing and conditions were found ideal when the animal was killed two months later. D. v. Navratil (Deutsche Zeitschrift für Chirurgie, vol. lxxv, No. 6; Journal of the American Medical Association, April 15, 1905).

OPTIC NEURITIS AND FACIAL PARALYSIS.

Optic neuritis is occasionally associated with facial paralysis, either alone or as part of a multiple neuritis; the etiologic factor may be rheumatism, but at times appears to be an infection, the nature of which is as yet undetermined. The optic neuritis is usually of the retrobulbar type, but a decided papillitis may be present, and be followed by more or less marked atrophy. In cases of multiple neuritis of the cranial nerves, the eyegrounds should be examined for possible optic nerve complication.

In facial paralysis, flattening of the face and enophthalmus may appear, and are to be considered as due to a neuritis of the fifth nerve, and not to involvement of possible sensory fibers in the facial nerve. E. A. Shumway (Journal of the American Medical Association, February 11, 1905).

PANCREAS, EFFECTS OF EXTIRPATION OF.

The author's experiments were made on dogs. Complete removal of the pancreas always entailed transient glycosuria for twenty-four to thirty-six hours, followed by very slight glycosuria proportional to the nature of the food taken. All glycosuria vanished in forty-five to sixty days. The animals also displayed at first various nutritional and metabolic disturbances, with excessive hunger and thirst. These disturbances gradually subsided and the animals returned to apparently normal conditions. In 1 of the 7 animals the glycosuria was more pronounced, and the animal became sicker and sicker, with final paresis of the hind legs. The symptoms correspond in every respect with those observed in pancreatic diabetes, and the liver was found atrophied, in fatty degeneration, with vacuolization, when the animal was killed in about a month. In this case there had evidently been infection and intoxication which had prevented the development of the compensatory processes which alone render it possible for the organism to resume its functions and to recuperate. In conclusion, the author protests against the way in which every glycosuria is called diabetes. There are many diabetics who thrive with large proportions of sugar and others who are in bad condition with very little sugar. He does not think that constitutional diabetes is the effect of the reduced sugar destroying capacity. Its essential characteristic is a progressive aggravation of the initial changes. The voracious appetite and thirst are the reaction, the response of the organism to abnormal or excessive decomposition going on within it. Diabetes is, therefore, in its essence an autolysis. This conception has been adopted by Ferrannina for diabetes insipidus, which he explains as an anomaly in metabolism due to the excessive instability of the albuminoid molecule. Hence the relationship between these two forms of diabetes and the frequent transformation of one into the other. The discrepancies in the results obtained by various investigators have probably been due to predisposing conditions, to the age of the animals experimented on, and to complications such as shock, infections, auto-intoxications, etc. T. Silvestri (Riforma Medica, vol. xxi, Nos. 6, 7; Journal of the American Medical Association, April 15, 1905).

PEPTIC ULCER, TREATMENT OF.

The strongest argument so far presented in favor of the surgical over the medical treatment of peptic ulcer is the failure of the latter. The danger to the patient from operation in skilled hands is not greatly increased, the immediate results of both medical and surgical treatment being about the same. The future interest to the clinician lies, not in hearing of the prowess of the surgeon, recorded in long series of successful operations, but in learning their end results. Until they are known conservatism seems the proper course, but when medical treatment has failed, as shown by the recurrence of repeated small hæmorrhages, or the persistence of other symptoms, a resort to operation is legitimate and justifiable.

The surgical treatment of hæmorrhage is of questionable utility, since in many cases it has continued, or first appeared, after operation, and in some, at least, of the successful ones it is doubtful if operation had any influence for good.

The interests of the patient will be best served, when doubt arises as to the advisability of operation, if the decision is not left to the physician or surgeon alone. Only by their coöperation will it be possible to avoid either the sacrifice of life from unnecessary delay, or the performance of useless or even harmful operations. G. G. Sears (Boston Medical and Surgical Journal, March 30, 1905).

PERNICIOUS ANÆMIA, THE THEORY OF.

The authors have deduced the following as the result of a series of experiments which they performed: The serum of pernicious anæmia has neither an agglutinating nor a solvent action upon the blood-corpuscles of the patient, either in the body or in a test tube. Neither does the serum show any solvent action upon the blood-corpuscles when the Landsteiner method is employed. This want of ability to dissolve the blood-corpuscles of the blood of which a given specimen of serum forms a part does not depend upon the absence of the so-called complement. The serum of pernicious anæmia also fails to dissolve the blood-corpuscles in other specimens of blood, of which it does not form a part, but it does have an agglutinating effect in many such cases. This last-mentioned peculiarity is not entirely characteristic, however, of the blood of pernicious anæmia. The inability of the serum to dissolve the corpuscles in blood of which it does not form a part is not due to a want of complement.

The authors conclude that it has not been proved, up to the present time, that the blood poison which is supposed to be present in pernicious anæmia is a complex hæmolysin in the sense in which it has been described by Bordet and Ehrlich. Litten and Michaelis (Fortschritte der Medizin, December 20, 1904).

POSTPARTUM HÆMORRHAGE.

Postpartum hæmorrhage is one of the most serious complications found in obstetric practice. It is not always preventable by careful management of the third stage of labor, as some authors seem to believe. The first step in the treatment of a rapid and severe case is the insertion of a hand in the uterus, the other meanwhile manipulating the fundus through the abdominal wall. Hot-water douching is convenient, cleanly, and effective, and no obstetrician's outfit is complete without apparatus for the infusion of salt solution and for intravenous douching.

The benefit to be gained by packing the uterus with gauze is doubtful, the danger is evident. Later experiences, not only in postpartum hæmorrhage, but in other conditions in which uterine hæmorrhage is feared, as after curetting for abortion, or miscarriage in the early months of pregnancy, have firmly convinced the author that it is not wise to put anything into the uterus that is not necessary, nor to leave anything there that can be avoided, even though impregnated with antiseptics. H. H. Loveland (American Medicine, April 15, 1905).

POTASSIUM IODIDE, ADMINISTRATION OF.

The method of administering potassium iodide should differ in accordance with the purpose for which it is given. For therapeutic purposes potassium iodide should always be given in solution, well diluted, and, if possible, never on an empty stomach. Milk is the best diluent, but compound syrup of sarsaparilla, mineral water, or ordinary pure water may be used. The drug must be pure. Many bad effects are due to impurities. By observing strict cleanliness of the skin, disagreeable skin eruptions to a large degree may be prevented. Where accurate dosage is of importance it is safer to prescribe a 50 per cent. solution, 2 drops to equal 1 grain of the drug. Potassium iodide should never be given in phthisis, or when there is even a suspicion or tendency to phthisis.

In children it is best to give the drug very frequently in small doses, 1/4 grain every hour, rather than infrequently in large doses. A very convenient way is to dissolve the daily dose to be taken in twenty-four teaspoonfuls of water and have the child take one teaspoonful every hour while awake, and two or three teaspoonfuls on awakening after a two or three hours' sleep. In this way a six-months-old child may take as much as 15 or 30 grains in twenty-four hours for a long time without inconvenience. Special plans of administration are described for syphilis, locomotor ataxia, chronic endarteritis, asthma, nephritis, lead poisoning, rheumatism, gout, and neuralgia. M. Hühner (Medical Record, April 1, 1905).

PROSTATIC HYPERTROPHY, OBSTRUCTIVE, PATHOLOGY OF.

Pathologically, there are three types of prostates causing urinary obstruction: (*a*) The large, soft type; (*b*) the hard, small, contracted type, and (*c*) the mixed type. Infection does not influence the variety of the pathological change. The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostate, but is distinct from it. In many cases of hypertrophy of the prostrate there is present a true muscular hypertrophy. In some of the atrophic cases the glandular elements are relatively diminished and the muscular elements relatively increased.

Gonorrhœa is not an important factor in the production of this disease, and there is no necessity for assuming it to be. The theory of obstruction to the ducts causing passive dilatation of the glandular elements, as advanced by Ciechanowski and Crandon, does not satisfactorily explain the pathological findings. Hypertrophy of the prostate results from glandular overgrowth, influenced by the degenerative changes of old age, and other agents which tend to produce the formation of fibrous connective tissue in an actively functionating gland. P. M. Pilcher (Annals of Surgery, April, 1905).

PUERPERAL FEVER, THE BLOOD IN.

At term the patient may or may not be slightly anæmic; if anæmic the hæmoglobin is affected rather more than the red corpuscles, leading to a slight reduction of the color-index. The leucocytes are increased in number, especially in first pregnancies, and the increase mainly affects the polynuclears. During a normal puerperium the number of the leucocytes commences to fall soon after delivery and continues to do so for about a fortnight, whereas the red corpuscles and hæmoglobin fall slightly for a day or so and are then gradually regenerated. When the process is arrested by a general septic infection the fall in the leucocytes ceases, and is replaced by a gradual rise, the increase being due mainly to an increased number of polynuclears. At the same time, the regeneration of the reds ceases, and is replaced by a fall in the hæmoglobin, and a smaller fall in the red corpuscles. The iodine reaction is well marked. When abscess formation occurs apart from a general septicæmia, the rise in the leucocytes (due to this case also to polynuclears) is more sudden, and a higher level is reached. The The hæmoglobin and reds are affected slightly, if at all; and the leucocytes give the iodine reaction. W. D'Este Emery (Practitioner, March, 1905).

PYELITIS, TREATMENT OF.

The author emphasizes the fact that mild types of pyelitis are not infrequent, and that if they are unrecognized or improperly treated they may lead to very serious consequences. The practical deductions to be drawn from the paper are: It is important to take cognizance of a pyelitis of any grade whatever, as it may, at any time, become a menace to the functional value of the kidney, or even to life itself. The severer grades of the affection are often the sequelæ of a milder pyelitis of long standing. The first step in the investigation is to determine the extent of the affection by estimating the amount of pus in the urine and the relative number of organisms. It is important to determine the cause of the infection, which is often of a mechanical nature, and therefore easily relieved. By removing the cause, the disease may either be cured, or be so far benefited that a subsequent complete relief by means of local treatment is easily brought about. The milder forms are best treated by rest, abundant water, and urotropin. If there is not speedy improvement, the next simplest plan of treatment is the catheterization of the kidney every two to four days for the purpose of evacuation, distention of the pelvis, irrigation, and instillation. Boric acid and nitrate of silver are the best drugs in this connection.

Improvement should be measured by the disappearance of pus from the urine and the diminution in the organisms, taking, say, three platinum loops as the measure in conveying the infected urine to the agar. A patient improved, but not cured (complete absence of bacteria), should be watched in the intervals of treatment, and guarded with especial care in case of any intercurrent disease. Should such a disease supervene, urotropin is a good prophylactic. The severer forms of the disease may be treated by irrigation, which often brings great temporary relief. As a rule, however, the kidney must be opened and drained; if it has been extensively diseased, it should be removed. Howard A. Kelly (Medical Record, April 8, 1905).

RENAL DECAPSULATION.

As regards the functional value of the new-formed capsule after decapsulation, the conclusions deduced from considerable experimental work on rabbits are favorable on the whole. When the animals were killed four weeks after the decapsulation the anastomoses between the kidney and the capsule did not have the total capacity of the normal vascular conditions, but at some parts had locally a greater capacity. This occurred especially at the points where the kidney had been more injured. Five series of experiments were made: (*a*) ligation of the renal artery with kidney intact and removal of kidney three or five days later; (*b*) decapsulation of kidney and its removal after five days; (*c*) decapsulation of kidney and simultaneous ligation of renal artery; removal of kidney after two or five days; (*d*) decapsulation of kidney with ligation of renal artery four weeks later and then removal of kidney after five days; (*e*) half decapsulation of kidney with ligation of renal artery four weeks or twenty-three days later, and removal of kidney after five days. In series (*c*) little influence on the process of necrosis could be detected, but under especially favorable circumstances a new capsule developed so rapidly and grew so intimately into the kidney that an important intermediary zone was formed, with a zone of demarcation. In series (*d*) the fibrous capsule became regenerated almost *ad integrum.* It was more closely adherent to the kidney than normally. Little islands of living parenchyma were found close to the capsule, the tissues evidently receiving extra nourishment from the capsule at these points. J. H. Zaaijer (Mitteilungen a. d. Grenzgebieten, Jena, vol. xiv, No. 3; Journal of the American Medical Association, April 8, 1905).

SPEECH, RETARDED DEVELOPMENT OF, IN YOUNG CHILDREN.

Retarded development of speech in young children may be the result of structural irregularities in the peripheral organs, impaired respiration due to nasal, postnasal, and pharyngeal obstructions, paresis of the nerves supplying the organs of speech, and not infrequently to some disturbance of hearing not necessarily amounting to absolute deafness. Retarded development of speech always results in defective mentality.

The treatment consists in the removal of any obstruction that may exist in the peripheral organs and in the systematic training of the auditory and speech centers by the use of specially prepared vocal exercises. A child may be taught to hear it in exactly the same way as he is taught to read and write. G. Hudson-Makuen (New York Medical Journal and Philadelphia Medical Journal, March 4, 1905).

SPRUE, USE OF CYLLIN IN.

Sprue is a complaint so baffling, so difficult to cure, recurring so frequently after apparent recovery that any hint as to its treatment is worth recording. The disease shows itself in various forms, and many seemingly favorable cases prove most intractable, while others make rapid and complete recoveries. In the majority of cases which quickly respond to treatment the disease is confined to about the lower eighteen inches of the bowel, while in the intractable cases the upper portion of the colon and probably the lower part of the ileum are involved. Hence, in the former, the almost certain efficacy of copious antiseptic lavage, while in the latter they have little or no effect on the actual course of the disease. Little is known of the etiology of sprue. Its fatality is due to inability to assimilate food. The usual symptoms are wasting, sore tongue and frequent and abundant frothy stools. The patients are unable to take the mildest or simplest nourishment on account of the pain caused to the mouth and tongue and the almost immediate evacuation thereby brought on. The value of antiseptics applied locally to the bowel has been proved. Boric acid, however, produces headaches and increases digestive troubles. Carbolic acid is ill-borne; salol makes the stools more healthy, but does not cure the disease; perchloride of mercury and naphthol are inefficient. Cyllin, a new disinfectant of the cresol series, given in the form of intestinal platinoids, 3 minims cyllin in each, is well-borne, the number of stools rapidly diminishes, the bowels are regulated, and the general condition of the patient improved. The platinoids may be given every second hour if necessary, but rarely more than eight a day are required. They are best given an hour after food. All pain and tenderness over the lower part of the abdomen disappear; there is a steady increase in weight, and the patient is soon able to return to the ordinary diet.

The cases treated solely by rest and milk diet take a much longer time to get well, and their recovery is often not complete. Relapses, particularly on returning to a hot climate, are frequent. W. Hartigan (Journal of Tropical Medicine, March 1, 1905).

STOVAINE.

Stovaine as a local anæsthetic is apparently equal to cocaine, and the time necessary for acquiring local anæsthesia is the same as that of cocaine. It apparently does not contract the nasal mucous membrane to so great an extent as do similar solutions of cocaine. This is at times a disadvantage when the nasal passages are desired to be widely opened for more thorough inspection of the cavities; on the other hand, it is oftentimes an advantage, as in snaring of redundant tissue by not too greatly shrinking it, and, therefore, making it more easy to be removed.

Stovaine does not produce nearly so great a sense of constriction in the pharynx as that which is produced by cocaine. In this respect it has a decided advantage over cocaine, especially in those patients to whom the symptoms of constriction with constant desire to hawk and remove a supposed foreign body are very distressing.

Solutions of stovaine have a peculiar odor of stale fish, which has been annoying to some of the patients, and are more bitter than similar solutions of cocaine. No toxic effects have been seen following the use of stovaine; there have been no secondary headaches or feeling of lassitude after the local anæsthetic effect of the drug has disappeared; the author is also of the opinion that the secondary swelling of the mucous membrane following the use of stovaine is less than that which occurs after cocainization. C. G. Coakley (Medical News, April 15, 1905).

STREPTOCOCCI, DISSEMINATION OF.

Streptococci are expelled from the mouth in the invisible droplets of sputum by coughing, speaking, whispering, crying, or breathing forcibly through the mouth. They are expelled to a distance of at least 36 centimeters. Thirty-three out of 50 scarlet fever patients, most of them children, were found to expel streptococci in coughing, crying, or breathing; 42 out of 50 normal adults were found to expel streptococci in coughing or in speaking. The streptococci thus disseminated may be inhaled by others, and may set up streptococcal complications or may fall on the tissues exposed at an operation and cause suppuration.

Just as the virulence of an individual strain of streptococcus may be raised by planting on certain nutrient media or by passing through susceptible animals, so, in all probability, it may be raised by passage from one human being to another. In this way may be explained the conversion of a case of simple scarlet fever into one of scarlatinal sepsis, and in the same way may be explained the cases of surgical sepsis which occur after all usual precautions have been taken.

Cases of scarlet fever with streptococcal complications should be isolated from cases without such complications. Surgeons and nurses should have their mouths protected during the time of an operation. Alice Hamilton (Journal of the American Medical Association, April 8, 1905).

STRYCHNINE AS A HEART STIMULANT.

From a study of this question, the writer concludes that strychnine is not a direct heart stimulant, and is contraindicated in erethistic and non-compensated cases. In these conditions strychnine either does not act at all or else, developing its cumulative action, makes the erethistic condition worse and increases the subjective discomfort of the patient. The action of strychnine upon the nervous system is to produce a vasoconstriction with an increase in the blood pressure, and therefore the drug is indicated in the adynamic and depressive forms in which the tone of the blood-vessels is impaired. In debilitated or neurasthenic individuals it produces a noteworthy improvement in the general condition and increases the appetite and the strength of the patient. Carlo Gennari (Riforma Medica, March 4, 1905; New York Medical Journal and Philadelphia Medical Journal, April 15, 1905).

SURGICAL SHOCK AND COLLAPSE.

Surgical shock is a condition produced by exhaustion of the vasomotor centers and the resulting great fall in blood pressure. Collapse is a similar condition caused by lowering of the blood pressure from hæmorrhage or paralysis of the vasomotor centers. In surgical operations shock most frequently results from operations upon the abdomen, the most important factors in its causation being injury to, or exposure of, the peritoneum, the length of the operation, injury to organs richly supplied with nerve fibers, as the stomach, uterus, and kidneys, evisceration, and extensive and prolonged manipulations. In operation upon parts other than the abdomen the most important factors in causing shock are injury to parts richly supplied with nerve endings, the area of the wound, the time of exposure of the tissues, and hæmorrhage.

Another important factor in the causation of shock during surgical operations is the anæsthetic. Ether and the C. E. mixture are the best anæsthetics for cases where there is danger of shock, chloroform on account of the fall in blood pressure which follows its administration being very unsuitable for such cases. The time occupied in performing the operation is always an important factor, more especially in children and old people. The condition of the patient prior to operation is important, especially as regards the condition of his nerve centers.

In the treatment of shock, stimulants, and especially strychnine, are absolutely contraindicated as they tend to increase the severity of the condition and to retard recovery. Shock can be produced in an animal by the administration of strychnine alone. The position with the head down and the foot of the bed raised is of considerable value in the treatment of shock and should be more extensively used.

Compression of the abdomen, either manually in an emergency or by the application of a tight abdominal binder, is a most effectual method of treating shock in all cases. The establishment of an artificial peripheral resistance by the application of external pneumatic pressure affords an absolutely certain method of maintaining the blood pressure, and though not at present a practical method should some day prove of great value. The intravenous infusion of salt solution or physiological serum will raise the blood pressure in all degrees of shock. As a method of treatment in shock it is disappointing as its action is fleeting and it cannot be continued indefinitely. In the collapse of severe hæmorrhage it is effectual and lasting in its effects. The introduction of saline solution into the abdomen at the end of an abdominal operation is a valuable method of combating shock and is not contraindicated by the presence of pus in the abdominal cavity.

One of the most effectual methods of treating shock is by the administration of drugs such as adrenalin, hemisine, and ergot, which raise the blood pressure by increasing the peripheral resistance independently of the nerve centers.

Like sepsis, shock can be prevented much more easily than it can be cured, and as is the case with sepsis, so with shock. With the exception of abdominal operations the method of blocking the main nerves with cocaine seems to afford a ready and most efficient way of completely preventing shock in even the most severe of surgical operations. Morphine, administered both before an operation and afterward, is a useful aid in the prevention of shock and does not seem to have been used in this connection as much as it deserves to be. Much may be done to prevent shock by having a chart of the blood pressure kept during all severe operations; procedures which are harmful may thus be avoided, treatment may be commenced at the time when it can be of most value, and, in fact, shock can be thus prevented or treated upon scientific lines.

The author believes the best line of treatment in the event of shock occurring or threatening during an operation to be as follows: If the operation is an abdominal one the peritoneal cavity should be filled before being closed with physiological salt solution, and if a severe degree of shock is already present, hemisine or adrenalin should be added to this solution in the proportion of 1 in 40,000. Whether the operation be an abdominal one or not, a firm, tight abdominal binder should be applied at the end of the operation, and in bad cases the limbs should be firmly bandaged from the extremities upward in addition. When the patient has been put back to bed the foot of the bed should be raised at least 12 inches on blocks and all pillows should be removed from beneath the head; the patient should be kept warm and some good form of nutrient enema should be administered and repeated in a short time. No stimulants should be given. A hypodermic injection of aseptic ergot should be given at the earliest sign of shock and repeated if any improvement in pulse tension follows its administration. Except where absolutely contraindicated an injection of morphine should be given at the end of the operation, whether pain be present or not; and if there is any restlessness afterward the morphine should be repeated. If, in spite of these measures, the blood pressure remains low and the patient continues in a dangerous condition of shock a solution of adrenalin in physiological salt solution, in the proportion of 1 in 20,000, should be intravenously infused at a rate of about 3 to 5 cubic centimeters per minute. The intravenous infusion should be continued until on stopping it the blood pressure is found to remain at a safe level. In bad cases it may be necessary to continue the infusion of adrenalin for a long period, but it affords a certain method of maintaining the patient's blood pressure and therefore his life.

In collapse following severe hæmorrhage intravenous infusion with physiological salt solution, should be performed as soon as possible. The amount of fluid introduced into the veins should be as nearly as possible equal to the amount of blood lost. The subsequent treatment should be the same as for shock. In all forms of sudden collapse, including the collapse of chloroform poisoning, the intravenous administration of adrenalin is of immense value in assisting to restore the patient's life. This drug, by raising artificially the blood pressure, allows the heart and the vital nerve centers to resume their functions very easily. It should prove of great value in resuscitating drowned persons and in other similar emergencies. J. P. Lockhart Mummery (Lancet, April 1, 1905).

TUBERCULOSIS, RELATION OF HUMAN AND BOVINE.

Human tuberculosis can be transmitted to cattle, but with difficulty, and it seems highly improbable that such transmission plays any great part in the production of the disease among cattle.

Bovine tuberculosis can be transmitted to man, but the evidence that such transmission occurs under ordinary circumstances is extremely scanty, and it is highly improbable that such transmission plays any important part in the spread of the disease in man. David Bovaird, Jr. (Medical Record, February 25, 1905).

URINE EXAMINATION.

Incited by a statement of Councilman that the chemical and microscopic examination of the urine failed to give certain information of the character of the renal lesions, as well as by discrepancies coming under his own observation, the author has compared critically the records and post-mortem findings in the cases that have come to autopsy in the Massachusetts General Hospital since 1893. Although the number of cases is not large, the writer thinks they warrant the following conclusions: Many cases of acute glomerular nephritis occur and are unrecognized by any known methods of examination. The diagnosis is at fault in some cases of subacute and chronic glomerular nephritis, but in the great majority of cases the condition of the urine, taken in connection with other symptoms, foretold the autopsy findings. In chronic intestinal nephritis the diagnostic resources appear to be neither so sufficient as in the chronic glomerular form, nor so inadequate as in the acute glomular nephritis. In about a third of the cases the diagnosis was correctly made before death.

Among other conditions mistaken for nephritis by too much reliance on the urinary findings are senile and arteriosclerotic condition, mistaken for chronic nephritis, while in conditions involving passive congestion or acute kidney degenerations, the urine occasionally simulates that of acute nephritis. Even where no lesions are found at autopsy the urine is sometimes highly albuminous and full of casts.

In ordinary urinary examinations the common errors are; (*a*) The attempts to estimate urea without accurate knowledge of the patient's metabolism; (*b*) stating that renal cells are present when all that is seen are small mononuclear cells, perhaps from the kidney tubules, perhaps not.

Cryoscopy and other attempts to test the renal permeability more directly are not yet capable of supplementing in clinical work the older methods of examination. The author holds that the vast majority of estimations of urinary solids, including urea, are a waste of time, since they are not and can not be made part of a general metabolism experiment, and that the attempt to estimate the anatomic condition of the kidney by measuring albumin and by searching for casts is fallacious. The most reliable data are the twenty-four-hour quantity, the specific gravity and the color. I. R. C. Cabot (Journal of the American Medical Association, March 18, 25, 1905).

UTERUS, RETRODISPLACEMENTS OF THE.

The writer makes a general division of retroverted uteri into the complicated and the uncomplicated. The complicated are those in which there are coexisting ovarian or tubal diseases, adhesions, or anything which interferes with the normal mobility of the uterus and so contraindicates all surgical interference of an extra-peritoneal nature. The uncomplicated include those in which the uterus is mobile, the tubes and ovaries normal, and the prolapsus very slightly developed if it exists at all. This condition can frequently be cured by means of tampons and pessaries. Should these fail the author is accustomed to resort to the Alexander operation. The ordinary lesions of the cervix and vagina do not contraindicate this operation. It is quite possible that the patient may not be benefited by the operation, and that an intraperitoneal operation will be necessary before a cure can be obtained. The Alexander operation is always safer than the intra-abdominal. All of the intra-abdominal operations may be objected to for some reason, and most of them are more or less faulty. When the uterus is movable and the appendages are healthy the Alexander operation is recommended. Displacements of the uterus may present no symptoms for a long time, but are almost sure to come eventually. The Alexander operation is well adapted for the changes which occur with pregnancy. The author's failures with this operation have been fewer than 5 per cent. Hayd (International Journal of Surgery, March, 1905).

Book Reviews.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. By Betton Massey, M.D. Fourth Revised Edition. Rewritten and Carefully Revised. Illustrated. F. A. Davis Co., Philadelphia. Price, $3.00.

It was the privilege of the writer to review the first edition of Dr. Massey's book when a small volume in 1889, one-fourth its present size. Since then it has grown with the progress of the subject, which has developed into an important department of therapeutics, as theories and practical applications of electrolysis and phoresis have become amplified.

As the author states, quoting from Professor Dolbear, he deprecates all allusion to electricity as a force external to matter and independent of it. Electricity, light, heat, and chemic action are inherent properties of matter, electricity being the rotary property of atoms; light the vibratory property, etc. They are but manifestations of atomic energies present in the interchanges of atoms in the molecular activities incident to life. "By its use we have a means of altering at will the molecular activities, the selective chemistry of both superficial and deep-seated parts of the body, and this is done, not by the aid of substances or even forces foreign to the body, but by a simple alteration of its cellular activities on which all organic functions depend."

In speaking of the limitations the author states that he makes the claims that electricity, or, in fact, anything else as a cure-all, is possible to the scientific mind; and although these pages are largely devoted to a demonstration of its value in the definite conditions enumerated, it is not supposed that the reader is to neglect any simpler means that would be effective in treatment. Electricity is only advised when it is equally certain in effect, free from danger, and more conservative of organs and their functions.

The fourth edition contains a complete, though brief, dissertation of "Roentgen Rays in Diagnosis," and treatment prepared by Dr. Herman Crad, of New York. The illustrations are admirable, especially 12 full page colored, 12 full page half-tones of photographs from nature, and numerous engravings of clinical conditions and instruments.

It is well that the public should know that there are means at command which may be tried before accepting the verdict of radical removal.—J. M. T.

TRANSACTIONS OF THE AMERICAN ROENTGEN RAY SOCIETY. A. H. Sickler & Co., Philadelphia.

We are in receipt of a neat volume of transactions of this society, which includes constitution, by-laws, a list of officers, and minutes of the fifth annual meeting, and seventeen papers. The illustrations are excellent, and apparently sufficient without being excessive. The work that is being done by these gentlemen is painstaking, thorough, and evidently accomplishing a large amount of good, especially in conditions not otherwise remediable.—J. M. T.

MENTAL DEFECTIVES, THEIR TRAINING AND TREATMENT. By Martin W. Barr, Elwyn, Pa. Illustrated by 53 Full-page Plates. Philadelphia: P. Blakiston's Son & Co., 1904.

Although a little late to notice this admirable book the reviewer feels impelled to say a word to readers of the CYCLOPÆDIA, because of his long association with the author in clinical work. Dr. Barr has given a lifetime not only to the intelligent care and supervision of an enormous institution of nearly 1000 inmates, and he has, more than most men who enjoy such opportunities, made a most thorough study of the problems which come under his observation. He has made many contributions in papers and monographs, all of which have commanded respect and added much to our knowledge of the difficult subject of the Mental Defectives. He has now in his early middle life produced a book which is destined to be authoritative in one department of medical science.

The book contains a careful and thorough review of the history of movements to elucidate mental disease, especially those which proceed from developmental defects. His classification is excellent, and that is by no means easy, indeed while it is scarcely possible to classify these cases; nevertheless, he has achieved an excellent system. Dr. Barr has had the boldness to discuss the subject of asexualization in a temperate and lucid fashion, and any one who will take the trouble to read his chapter on the subject will feel convinced that whatever his personal prejudices may be, there is no doubt that the evidences are strongly in favor of rendering these defectives unable to propagate their kind. Physicians generally would do well to familiarize themselves with this subject, so that they may act with judgment when such cases come under observation. In this book they will find not only much useful information but references to literature so complete, that through this means they could learn all that need be known on the subject.—J. M. T.

A TEXTBOOK ON THE PRACTICE OF MEDICINE. By Hobart Amory Hare, M.D., B.S.C. Lea Brothers & Company. Illustrated. Octavo, 1120 Pages, Cloth. 1905. $5.00.

Dr. Hare has fulfilled his promise of presenting the profession with a treatise on Practice. This with his practical diagnosis and practical therapeutics form a triad on which any man might well congratulate himself. So versatile is this author that we need not be surprised to find him invading other fields. As the preface sets forth, the author has had the coöperation of Professor Coplin, professor of pathology at Jefferson, and Dr. William Pickett, instructor in neurology, so that these two departments in the book will have been doubly revised. Further, the statement is made that the subject of tropical diseases has received special attention, which is wise, in view of the fact that we live in a time of expansion, whereby our medical supervision reaches out to many tropical and sub-tropical countries. Here the author expresses his indebtedness to Charles K. Kieffer, major and surgeon in the United States Army, who has seen service in the Phillipines, and is lecturing at the Jefferson Medical College. The arrangement of the subjects presents little that is unusual and yet does not fail to give sufficient attention to all those subjects presented in a book of this scope. Of special value may be mentioned the chapters of "Diseases of the Nervous System," which occupy 170 pages.—J. M. T.

Blood Pressure as Affecting the Heart, Brain, Kidneys, and General Circulation. By Louis Faugeres Bishop, A.M., M.D. E. B. Treat & Co., New York. Price, $1.00.

This little book of about 112 pages deals with the subject of the title in a clear, succinct fashion, and with suitable thoroughness for an adequate understanding of blood pressure in its relation to disease. It consists of nine chapters, divided in a rational, practical manner, and has already met with an excellent welcome.

It embodies the researches of previous papers by the author.—J. M. T.

Books and Monographs Received.

The editor begs to acknowledge with thanks, the receipt of the following books and monographs:—

"Text-Book of Medical Chemistry and Toxicology." By James W. Holland, M.D., Philadelphia. W. B. Saunders & Co., 1905, Philadelphia and London.——"Practical Pædiatrics, A Manual of the Medical and Surgical Diseases of Infancy and Children." By E. Graetzer. Authorized Translation, with Numerous Additions and Notes. By H. B. Sheffield, M.D. F. A. Davis Co., 1905, Philadelphia.——"Blood Pressure as Affecting the Heart, Brain, Kidneys, and General Circulation." By Louis Faugeres Bishop, A.M., M.D. E. B. Treat & Co., New York.——"Bio-chemistry of Muscle and Nerve." By W. D. Halliburton, M.D. P. Blakiston's Son & Co.——"Conservative Gynecology and Electro-Therapeutics." By G. Betton Massey, M.D., Philadelphia. Fourth Revised Edition. F. A. Davis Co., Philadelphia.——"The Relation of Diseases of the Stomach to Affections of the Mouth, Nose, and Throat." By Robert Levy, M.D., Denver, 1904.——Enuresis in Childhood. By Maurice Ostheimer, M.D. and I. Valentine Levi, M.D., Philadelphia, 1904.——A Case of Probable Gummata of the Liver in a Child of Six. By Maurice Ostheimer, Philadelphia, 1903.——Incontinence of Fæces in Children. By Maurice Ostheimer, Philadelphia, 1905.——Two Cases Presented to the Clinical Society of New York Post-Graduate Medical School and Hospital, December 16, 1904. By W. S. Bainbridge, New York, 1905.——A Case of Extensive Carcinoma of Tongue and Neck, Presenting Points of Special Interest. By W. S. Bainbridge, New York, 1905.——The Genesis of Sympathetic Ophthalmitis. By Samuel Theobald, Baltimore, Md., 1905.——A Consideration of Some Tendencies in Modern Medical Education. By J. D. Crain, Albany, 1904.——The Importance of Testing the Ocular Muscle Balance for Near, as Well as for Distant Vision. By Samuel Theobald, Baltimore, Md., 1905.—The Importance of the Physical Examination of the Back in General Diagnosis. By J. P. Arnold, Philadelphia, 1905.——Disturbances of the Vasomotor Mechanism as a Factor in Diagnosis and Therapeutics. By J. P. Arnold, Philadelphia, 1903.——Surdité et Fièvre Typhoïde. Par Dr. Marcel Natier, 1905.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

ADOLESCENCE.

At the request of the editors of the Monthly Encyclopædia of Practical Medicine, I am very glad to jot down in a hasty way the following opinions which I have formed concerning the need of a new field of medical practice. It is now some ten or fifteen years since I began to issue circulars and deliver public lectures and gather the literature upon adolescence. Very soon I began to be approached by both friends and strangers for guidance concerning their children who were in or near this critical age. As I printed articles upon it here and there the letters increased in number. Most of them were from parents or relatives of young people who had given them cause for anxiety in their development, and I had at one time over twelve hundred such letters, mostly representing different cases, on file in my office. Although I have done various researches in physiological laboratories and spent much time in the study of the insane in asylums, I am not a physician and have had no motive except that of humanity to answer the innumerable questions that have been asked me.

Five years ago I began to realize that, had I been a physician, I might have easily worked up a lucrative practice from such cases. These letters have never been as numerous as within the last year or two. I am confronted with all kinds of practical and even impossible questions concerning young people who are bright, geniuses, dullards, born short, one-sided in their mental, physical, or moral development, etc. Many of these questions I am utterly incompetent to answer, and in any case should be able to give but little help to strangers. Some of my letters contain long and pitiful tales of obvious ignorance, misunderstanding, wandering from doctor to doctor, and getting no relief and no insight. Perhaps more than half of these cases do not require treatment that would be called medical so much as pedagogical and psychological treatment. Suggestions concerning regimen, attendance at school, what school, occupation for vacations, etc., are desired. I have often been told that I ought to have a competent private secretary to devote his or her time entirely to such correspondence, both with a view to doing good in the way of instructing parents, and in order to collect data.

These experiences have convinced me that there is in our communities a class far larger than is supposed of young people in or near the teens who give too good cause for anxiety, but who are not fit subjects for restraint and who do not need drugs, but should be given sensible physiologic and pedagogic advice. Hippocrates, I believe, is the author of the maxim, "Godlike is the physician who is also a philosopher." But in the treatment of these cases there is crying need of some such qualified man. Therefore, I conclude that as children's diseases and women's diseases have become a specialty, there is now place for another medical specialty for the treatment of adolescent troubles of mind and body. Fortunately, we have a recent new interest in what Kahlbaum first discovered and named hebephrenia, but which, with better knowledge, we now call dementia præcox. I have taken much pains to become somewhat familiar with this very rapidly growing body of literature. The above term is an omnibus term, designating and including a vast variety of symptom groups which may ultimately develop independence into a great variety of types.

Virchow always insisted that every disease must have a location, and taught his pupils always to ask, *ubi est morbus?* This has been the maxim of pathologists for several decades. In every post-mortem they seek to find somewhere the seat of the lesion. If there was ever a disease, however, which belied this view it is dementia præcox. It is not without significance that the principle itself is now challenged and that the belief in the existence of ailments, which may be mortal but which are nevertheless so purely functional as to defy the quest of definite lesions sought after death, is now coming into prominence. Kraepelin's view, that it is due to autointoxication, is now generally discredited. An eminent neurologist showed me some two or three years since what he deemed microscopic evidence of disturbances in the lenticular nucleus, but he has since abandoned this view. Brain weights have not yet yielded any substantial results. Wernicke, in his "Grundriss der Psychiatrie," has made much use of what he calls sejunction or dissociation between neurons. This was doubtless suggested by Cajal's famous make and break theory of association, but this has been abandoned by its author. Dementia præcox seems to me as loose and all-comprehensive a term as female or childhood diseases, but one of the distinguishing characteristics of these complaints is their essentially psychic quality. Jenet's conclusions concerning psycholepsy and Meltzer's recent protest against a purely post-mortem and somatic pathology applies peculiarly here where the mortality is so slight and the deterioration so subtle, but so calamitous. Adolescence is a period when young people have not entirely escaped liability from many of the disorders of infancy and early childhood, and when many diseases of maturity have not yet acquired their full strength, so that human beings are then peculiarly prone to slight ailments, although the mortality rates are low. It is, however, just these slight ailments that are effective in causing the subtle processes of cellular arrest or perversion at this crucial period when the higher faculties are born. As a result of a work which I have recently published I have already heard of at least one young physician who has determined to make practice among those of this age his specialty. I think it would be vastly for the interests of the young people of this land if others would do so; but it would be very necessary that, while they should know the main results of neurological and pathological studies, they should also know something of the vast but yet undeveloped resources which psychology and pedagogy are ere long to supply to the medical profession.

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THE DISORDERS OF ADOLESCENCE.

At our request Dr. G. Stanley Hall has given us a short but deeply significant editorial on the work to which he has devoted a useful lifetime. The perusal of his great book, "Adolescence," has impressed me with the momentous desirability of a wider diffusion of a knowledge which such researches afford the medical profession. He speaks as a psychologist, not as a physician, it is true, but as a profound student of childhood from the standpoint at all times of physiology, in which department of medical training he spent years in Ludwig's laboratory. To rightly appreciate the force of my opinion that a study of at least certain portions of this book will enlighten any practitioner of medicine, it is only necessary to refer to the ample chapter headings and express the hope that this will be done by those who can gain access to a copy. It will be found that here is displayed a breadth of reading all but impossible to the physician, unless he devote himself to the subject as a specialty, along with a clarity of judgment, the product of personal familiarity with vast numbers, not only of specialists and teachers, but also with children themselves, which fits him to speak with authority. Myself, having devoted much time and attention to childhood study, and particularly to neuroses and psychoses, endeaving for many years to do my duty as consulting physician to three large institutions for the backward-minded, have striven to learn something from literature. My reading, however, is as nothing to his, nor has it been possible, in the course of an exacting practice, to sufficiently digest and formulate this data. Here it is done in such a fashion that it forms a bibliography as well as a systematic presentation of the essence of those facts and conclusions most helpful in the daily round of practice among the young, and is most illuminating to the whole field of disease, physical as well as psychical.

It may be permitted to offer some brief quotations from a paper of my own expressing opinions on the need for attention to the subjects elaborated in Dr. Hall's book.

The subject of disease in childhood or youth can never become plain as it should till the physiologic variations between the young and the adult are differentiated for the student. This knowledge may exist, but it is seldom formulated and presented to the undergraduate. Few text-books allude to childhood physiology except in early chapters, and then inadequately.

We must know more of normal growth and the phenomena of development. The energy of growth is a colossal force and significant in many departments.

In diagnosis our primal purpose is to recognize and elucidate the onset of functional derangements and detect disease in any stage or form. If, however, we fail to devote sufficient attention to morbid phenomena of the mind and morals we perform less than half our duty. Disorders of the mind are dependent upon one of two factors: either defects of development in the brain, or disused processes of the brain, or retroactively. The purpose and aim of diagnosis rest upon the concept that by the early recognition of manifestations of morbid physiology we shall thereby find means to check the changes which would otherwise pass on to destructive alterations.

If this proposition obtains for the disorders of the physical functions, how much more should it fulfill a valuable service for those of the brain, which is a far more sensitive structure and especially liable to sustain permanent damage from slight irritation. It is a great privilege to mitigate bodily suffering, to limit the progress of structural degenerations, to pevent disablement and save life; but how vastly higher is the prerogative to turn aside those perils which jeopardize the budding intellect and rescue a tottering moral nature. Yet how little of this subject is the student taught, or again how much interest does the average practitioner display in this incomparably higher phase of his duties?

Diagnosis of the morbid conditions of childhood involves something more than a mere search for evidences of disease. During the period of plasticity numerous influences prevail in all ranks of life to alter normal growth and organic development, by which the foundations of constitutional weakness are often laid. These are in a great measure preventable, at least in part. It is the duty of the physician to recognize and promptly rectify the evil effects of environment and training, and in as far as possible, of inheritance. Hence it is the most important accomplishment in differentiation to possess clearly defined standards of growth, proportion, activities, sensitiveness, functional competence, intelligence, and capacity for endurance. These standards should be the products of wide observation, reading, and experience, among normal as well as abnormal conditions, but unless tempered by judgment of a high order, right conclusions are not assured.

The standards for each pediatrist is the ideal child, a composite picture of normal children, and cannot be formed too carefully nor from too thorough an interpretation of the data at command. Next to the ideal child the diagnostician must erect for himself examples of permissible variants.

Difficulties of diagnosis are many enough among children normal in structure, in neural balance, and in mind; but these grow greater where constitutional variations or deviations are present. Hence it is desirable to consider variants of types; peculiar and exceptional children. The normal processes are profoundly modified by peculiarities of temperament due to inheritance or acquired.

A few years ago nothing was known of child study. Now a literature has developed about child growth, both physical and mental, which displays the most brilliant promise and is already of immense utility.

For a long time the subject has occupied the attention of acute minds. Here and there valuable observations were recorded, and these now form the groundwork on which the new impetus built the structure which is now an important branch of preventive medicine. Certain facts are now plain. Growth in human beings is not uniform and consistent as in animals. Variants are more noticeable in proportion as our powers of observation and critical differentiation become elaborated. Educators must take into account the lines on which growth can be predicated. For example, the sons or daughters of the same parents reared under presumably similar conditions and influences, yet vary widely in capacities, tendencies, education, abilities. Educational methods are evolved to suit the needs of the lower averages and applied to all alike, or with small modifications. Parents naturally cherish the conviction that each of their children are at least well up to this average or standard and resent any discrimination, particularly if below the normal. This attitude is unfortunate, for it often happens that a child has not the inherent powers and impulses which are to be trusted to carry it on without other aid than suitable opportunities and environment. Certain aspects of the mind, psychoses, and neuroses, abound in early adolescent years more than at any other period of life. This causes great emotional strain, which by some has been described as a kind of depressed insanity, that is nevertheless so frequently met at this period as to be almost expected. To keep down morbid impulses is often a difficult matter in this age of stress. There is an intense antagonism between egoistic and racial motives. One writer would have us almost believe that the relative reduction of the individual involves a latentizing of energy which builds up the great organs involved in reproduction which are not used, but only prepared for the future. This expenditure of energy is not immediate, but the race ought to carry the day and accumulate energy not immediately spent. On this view pubescence to-day probably involves great waste of energy that should be stored up into active channels, and hence arises a tendency toward slow progressive race failure. This is also the most plastic period of life as seen in the very wide differentiation of size, brightness, dullness, etc. Thus in a sense the child is not completely born until he has achieved this great revolution and established a law of division between stored and used energy.

Only by knowing most of these facts and applying them in the daily happenings can the medical practitioner note, foresee, and adjust factors of gravest immediate and future import.

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CLINICAL SIGNIFICANCE OF THE REFLEXES.

Since Westphal and Erb published their observations on the knee-jerk and other tendon phenomena, in 1875, very much attention has been given to the reflexes. The number of observed phenomena of this order is constantly multiplying; in fact, is almost passing beyond the reach of the busy practitioner. Some of the newer ones have but the same significance as other older and better known reflexes. Others have as yet little practical value. But the clinical significance of these phenomena is constantly increasing. They have been assisting us to differentiate organic from functional nervous disease, disease of the gray from that of the white matter of the cord, infantile cerebral from infantile spinal paralysis; to diagnose multiple sclerosis, multiple neuritis, etc.; and recently what have appeared to be of much value, even in such general conditions, the diagnosis and prognosis of acute infectious diseases.

Time must tell what is to be accomplished in some of these directions, and of what importance are some of the newer reflexes.

But there are conditions of disease in which some of these reflexes are of paramount importance. They may mean everything in diagnosis or prognosis. And these facts, simple as they are, are apparently not yet fully known to the profession; at least are not the "finger-end knowledge" that they should be.

One of these facts is the value of the knee-jerk and the pupillary reflex in the diagnosis of locomotor ataxia and paresis. In a case where one of these diseases is suspected to be present, the absence of the knee-jerk, or the presence of the reflex rigidity of the pupil, makes the diagnosis very probable, while the presence of both of these signs at the same time makes the diagnosis practically assured.

What makes these symptoms specially valuable is not only that they are commonly present in these diseases, but that they are usually among the earliest manifestations.

Nor is it necessary that either of these reflexes should be entirely absent, that we should have the aid of their diagnostic import. For they become gradually abolished, and the decrease in their response has nearly the same significance as their loss. We may observe this gradual decrease as we watch the progress of the disease, or we may be made cognizant of it by the fact that the response on the one side becomes abolished sooner than on the other. So we may find that one pupil is larger than the other, or that the knee-jerk on one side is more difficult to elicit or of smaller excursion than the other, or is altogether absent.

The method of examination to elicit these reflexes is important. The knee-jerk is often difficult to elicit in normal individuals, and the grave error may be made in such cases of pronouncing it absent. Before doing so the patient should be placed in a position with the legs swinging freely and tested by Jendrassik's method, linking the hands into each other, and then pulling forcibly the instant the blow is made on the patellar tendon. In some eyes, too, the pupillary response is difficult to see. In that case, testing with the aid of a lens in a dark room will bring out the reaction more clearly.

The Achilles reflex has been carefully studied in recent years. It is also abolished in paresis and locomotor ataxia, and is even a more valuable symptom of those diseases than the loss of the knee-jerk, because it is likely to disappear sooner than the latter.

It is most easily elicited by having the patient rest upon the knees, with legs flexed, and then striking the tendo Achillis.

The increase of the tendon reflexes has as great clinical significance as their decrease or loss. These reflexes vary greatly in intensity in different individuals; but their pathological increase may be known by their marked difference on the two sides of the body, or by the presence of "clonus" phenomenon. Practically the most valuable of the latter phenomena is the ankle clonus. It is the rhythmic movement of the foot upon the leg, caused by sharply flexing the foot dorsally, the clonus continuing as long as the foot is held firmly in this flexed position.

Pathologic excess of the tendon reflexes almost invariably indicates disease of the pyramidal tracts, found in disease of the lateral tracts of the cord, in multiple sclerosis, in secondary degeneration of these tracts following apoplectic attacks, etc.

Increased tendon reflexes at times possess a high prognostic value. Their appearance in the paralyzed limbs shortly after an apoplectic stroke indicates that the paralysis, at least to a considerable extent, will remain permanently. In these instances it is as significant as is the early appearance of the reaction of degeneration in peripheral paralysis.

The superficial reflexes are more inconstant and more variable than the tendon reflexes, and in general have far less value in diagnosis. But one symptom of this order is not less significant than the tendon reflexes—that is, the Babinsky phenomenon. Normally—except in very young infants—the plantar reflex is a flexion of the toes. The Babinsky phenomenon is a slow extension of the big toe, the action of the other toes being variable. This phenomenon is found in cases of disease of the pyramidal tracts. It has, therefore, the same significance as exaggerated tendon reflexes. But there is one place where it counts for much more than the latter. In case of apoplexy it may be present at once on the paralyzed side. It has been found within five minutes of the onset of the attack.

There are cases of coma, with cause unknown, in which there is complete relaxation of all the muscles of the body, so that it may otherwise be impossible to say that here is a one-sided paralysis.

In such a case the presence of the Babinsky phenomenon may entirely clear up the diagnosis.

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ALKALINE BEVERAGES IN PNEUMONIA.

In the last edition of his excellent "Pathology" (1904), Lazarus Barlow, referring to the diminution of the blood's alkalinity during fever, says: "The cause of this change is quite unknown, though suggestions have been made that it depends upon altered tissue metabolism induced by fever, upon acid substances formed by micro-organisms, upon the formation of acid by-products during the disintegration of protoplasm that has been killed by bacterial toxins. But whatever the true explanation may be, it is probable that the change is highly important for the organism, for it is an *unfavorable sign* in febrile disease, and it is known that diminished alkalinity of the blood goes hand in hand with increased susceptibility to infection." In the first volume of "Internal Secretions," I emphasized the very great importance of this feature in *all* febrile processes, concluding with the sentence (page 782): "Steadily as the febrile process advances, the alkaline salts are consumed, and, being inadequately renewed, the vital and *defensive* functions are increasingly hampered until life ceases."

Experimental bacteriology forcibly emphasizes the importance of an alkaline reaction of the blood-fluids in disease. Behring and Nissen have shown that it is because of the intense alkalinity of their blood that rats are refractory to anthrax. Paul not only confirmed this observation, but found that when the alkalinity of the serum of rabbits was neutralized its germicidal powers disappeared; von Fodor found that the resistance of rabbits to anthrax could be actually increased by the injection of alkaline solution; Blumenthal, that the formation of bactericidal agents coincided with the blood's alkalinity, etc.

The more advanced teachings of biology point in the same direction. "We know," says Jacques Loeb in his recently published "Studies in General Physiology," "that the peculiar phenomena of oxidation in living matter are determined by fermentative processes, and we venture to say that fermentations form the basis of all life-phenomena." This coincides with my interpretation of the body's auto-protective processes, viz., that trypsin, a ferment—activated by the interaction of the blood's oxidizing substance (as catalytic) and the phosphorus-laden fibrinogen—underlies the bactericidal and antitoxic properties of the blood and cells. This view assimilates the immunizing attributes of the organism not only to the digestive processes, but also to the "life-phenomena"—all being regarded as "fermentations." Linked to this fundamental principle is another, however—a *sine qua non* of the intrinsic cellular interchanges to which Loeb gives voice when he says: "The sodium ions of the blood as well as of the sea-water are essential for the maintenance of life-phenomena." Hence my conclusion that in febrile diseases there exists a close relationship between a deficiency of sodium and death.

Even under normal conditions nearly one-half ounce of sodium chloride is excreted each day with the urine, the loss being constantly made up by the food along with the potassium salts. But the altered conditions during toxæmias, reduced diet, impaired assimilation, anorexia, etc., greatly diminish the intake, and unless measures be taken to compensate for this, the defensive functions are increasingly hampered and the chances of death are correspondingly increased. And this applies not only to pneumonia, but *to all febrile toxœmias.* Considerable work done since the first volume of "Internal Secretions," etc., was written, and personal clinical observations, have convinced me that we have in the judicious use of alkaline salts in all morbid processes of this kind, an important life-saving measure.

Inspired by these facts, Dr. J. B. Todd, of Syracuse, New York, in an article, entitled "Alkaline Beverages in the Treatment of Pneumonia," published in the New York Medical Journal and Philadelphia Medical Journal, of May 20, 1905, introduces what I regard as a very important step in the successful treatment of pneumonia, *i.e.,* the *oral* use of saline solution. The two cases selected to illustrate his results and several others, *all of which terminated safely* (as stated in a personal letter), are very suggestive. In the first case, a woman of 84 years, the solution was used from the start; in the second, a child of 8 years, the improvement coincided with the use of alkaline beverages.

I earnestly hope that this method of treatment will be extensively tried. Some opposition to the use of saline solution in this and other diseases has been based on the fact that the sudden elimination of waste products tends to cause inflammatory renal lesions, or to augment them if present. In truth, such lesions occur because the toxic wastes *are allowed to accumulate in the organism;* on being suddenly liberated when the saline solution is used, they overtax the kidneys. This is prevented when the saline solution, which facilitates and insures their gradual elimination of toxic waste products is administered from the start. Dr. Todd's formula is admirably adjusted to this purpose and provides "a refreshing effervescent drink, which is gratefully accepted by the patient."

It is as follows:—

℞ Sodium chloride, 320 grains.
Potassium bicarbonate, 160 grains.
Aromatic fluid extract (U. S. P.), 30 minims.
Water enough to make 4 ounces.

M. Teaspoonful in six to eight ounces of water every two hours with a teaspoonful of lemon juice.

The patient is also allowed to drink water at will.

Hypodermoclysis, first used by F. P. Henry in 1889 in pneumonia, is of great value, but it is usually employed late and often as a last resort. This is not in keeping with the principles I have advanced as regards the need of salts in the various fevers, namely, that the *alkalinity of the blood should be insured from the start in all febrile toxæmias.* We cannot begin with so surgical (formidable to the patient) a procedure as hypodermoclysis; we need a measure as simple as the taking of a remedy of any kind, and the oral use of saline beverage advocated by Dr. Todd fulfills this purpose admirably.

C. E. de M. Sajous.

Cyclopædia of Current Literature.

ADENOIDS IN THE ADULT.

Adenoid growths in the adult are much more common than is generally supposed. The condition is a frequent cause of nasopharyngeal catarrh, with dropping back of mucus and frequent clearing of the throat. It is also a frequent cause of nasal obstruction, and is the causative lesion in some cases of apparent hypertrophic rhinitis. A thorough examination of the nasopharynx should be made in all cases of ear disease and pulmonary tuberculosis. The treatment is not difficult, and the results are occasionally brilliant and rarely unsatisfactory. D. M. Barstow (New York Medical Journal and Philadelphia Medical Journal, May 6, 1905).

ANEURISM AND ARTERIOSCLEROSIS.

Arterial disease appears to be rare, almost unknown, in animals. Syphilis being probably peculiar to man, is by this observation placed more firmly in the list of etiological factors. Arterial disease in children under 6 years, even in those who are victims of congenital syphilis, is practically unknown. In those from 6 to 15 years it is rare. It is found in the initial stage most commonly between the ages of 30 and 40 years. The teratologic factor, though an undeterminable one, is of great importance. Arterial disease seems to be attributable to syphilis in about 32 per cent.; to tuberculosis in about 16 per cent. The facts presented go to show that the colored race is affected about four times more frequently than the white.

General arteriosclerosis seems to be not commonly found with aneurism and its presence may be considered as evidence against the probable development of aneurism.

Staining with selective stains and treating with a chemical which digests tissue show the elastic tissue to be free of histological alterations, suggesting that this tissue undergoes physical or molecular rather than histological change. C. N. B. Camac (American Journal Medical Sciences, May, 1905).

ASTHENIA.

The writer defines asthenia as an impossibility of, or at least a difficulty in, making a muscular effort, particularly if prolonged. This condition may be general or local. General asthenia may be subjective or objective. The prostration of acute diseases, such as typhoid fever, acute peritonitis, or Addison's disease, is an example of the objective form, while the less strongly marked weakness which accompanies infection or chronic poisoning is an example of the subjective. The etiological conditions are: (1) Infections, autointoxications, intoxications; (2) abdominal diseases; (3) central nervous lesions; (4) neuroses and psychoses. Sometimes the asthenia is of cerebellar origin, more often of visceral and abdominal, or sympathetic origin. In a great variety of diseases, peritonitis, Addison's disease, grippe, diabetes, mucomembranous enteritis, exophthalmic goiter, melancholia, etc., the sympathetic is at fault as is shown by the frequent association of vasomotor or secretory troubles. This has also been confirmed by experiment. The author also believes that there are anatomical relations between the cerebellum and the sympathetic which explain their physiological and pathological associated actions. By localized asthenia is meant predominating or confined to one place, as in chronic nervous dysphonia, accommodative asthenopia, and perhaps nocturnal incontinence of urine in children, which is a bulbospinal asthenia. P. Londe (Semaine Médical, April 5, 1905).

BILIARY TRACT, INFECTION OF.

Infection of the biliary tract may occur either with or without the presence of gall-stones, and may be due to a variety of causes producing symptoms which, while frequently obscure, are always sufficiently characteristic to permit of a diagnosis by careful analysis. Medical dietetic treatment of especial value in cases of recent infection, where by maintaining a patulous duct and fluid condition of bile, good drainage thus secured may result in recovery, and in some cases where operation is contraindicated because of other complicating diseases, extreme debility, etc.

Operative treatment, to be of greatest service, should be resorted to early—before gross pathologic changes have occurred in and around the ducts and bladder. Discontinuance of drainage should be tentative, so as to provide for its re-establishment if the ducts are found inadequate. Acetozone solution, a safe and efficient disinfectant for irrigation of the tract, should be used prior to closure of fistula. H. W. Longyear (Journal of the Michigan State Medical Society, May, 1905).

BILIOUSNESS, THE HEPATIC FACTOR IN.

The writer points out that the etiological factors commonly regarded as responsible for biliousness concur in tending to cause accumulation of glycogen in the liver. Biliousness may be divided into: (1) The acute form, due as a rule to some distinct error of diet, such as a surfeit of plum pudding; (2) the subacute (recurrent) form, due not to isolated indiscretions in diet, but to continued habitual over-indulgence; and (3) the chronic form, usually met with in adults, especially old residents of the tropics, and extending, it may be, to months in duration. Conformably, we may speak of: (1) Acute glycogenic distention of the liver, due to a large sudden irruption of glycogen forming material into the portal venous system; (2) subacute or recurrent glycogenic distention of the liver, in which there is a continued absorption of glycogen, forming material in excess of consumption, and a consequent progressive accumulation of hepatic glycogen, which attains its maximum at more or less regular intervals; and (3) chronic glycogenic distention of the liver, in which recurrent relief fails, and in which consequently the organ remains more or less continuously packed with glycogen. Factors, most of which are admittedly capable of dispersing biliousness, concur in tending to reduce the amount of glycogen in the liver. Some of these may be regarded as therapeutic, namely, abstention from food, physical exercise, climate, purgatives, restriction of meat and nitrogenous foodstuffs, and restriction of carbohydrates. Others must be regarded as pathological, namely, pyrexia and glycosuria. The rational treatment of recurrent and other forms of biliousness consists simply in limiting the intake of carbohydrate material, and sugar is the first foodstuff to be excluded. Herein is involved no functional impairment in any direction. The treatment consists merely in cutting down excess of supply. But an increase in regular physical exercise must also be advised, in order to obviate the necessity for any severe degree of carbohydrate restriction. F. Hare (British Medical Journal, April 15, 1905).

BREAST-FEEDING FOR INFANTS.

A valuable contribution to the efforts now made to diminish infant mortality by insisting on the mother nursing her own child whenever possible, is based on a series of 11,000 cases at the Maternity Hospital in Stuttgart. The mother's milk agrees with almost all infants, and not even a wet-nurse is an efficient substitute. The indications against nursing should be restricted as much as possible, and in many cases the inability to nurse is only apparent and will not withstand serious criticism. The influence of nursing on the proper involution of the internal genitals is especially valuable in those women who may be compelled to take up manual labor after only a brief interval spent in bed. In the institution where the observations were made, it was found possible to increase the number of nursing mothers so that from 98 per cent. to 100 per cent. of the women were able to satisfy their children. Of the breast-fed babies, 40.9 per cent. reached their birth-weight on the eighth day, and 54.8 per cent. on the thirteenth day of the puerperium, while 25.4 per cent. of the bottle babies only reached their birth-weight on the eighth day, and 35.6 per cent. on the thirteenth day. An unfavorable effect of nursing on other diseases was never observed—in cardiac disturbances, the compensatory disturbances usually subsided, and in renal troubles, the albumin disappeared. These patients are, moreover, protected from a longer period from subsequent pregnancies, and the latter exert a much more debilitating influence than the nursing. Syphilis is not considered by the author to constitute a contraindication, if a shield is employed. He claims that the so-called psychical reasons for inability to nurse are merely unproven theories, and the secretion is entirely dependent on the stimuli which are exerted on the milk glands. Among the most marked reflex stimuli are the suckling efforts of the child, and the latter may prove sufficient to cause a return of the milk secretion even when this may have been interrupted for a period of several weeks or months. A mother must show a desire and inclination to nurse her child, and this is one of the most important factors. A determined effort should be made on the part of the profession to instill these thoughts into the minds of parents and nurses. If the baby is given the breast early and the efforts continued, the milk will appear with certainty in most cases. G. Martin (Archiv für Gynecologie, Bd. 74, Nu. 3; Medical News, May 20 1905).

CEREBRO-SPINAL MENINGITIS, EPIDEMIC, TREATMENT OF.

The writer had had occasion to treat 45 cases of epidemic cerebro-spinal meningitis during the last ten years. His experience has confirmed him more and more in the belief that systematic and repeated lumbar puncture has a decided and favorable effect on the disease. In the case of one young woman the punctures were repeated daily for six days, and then twice more at longer intervals. The cerebro-spinal fluid was under pressure of 360 and 430 at the two first punctures, and 11 and 24 cubic centimeters of the fluid were allowed to escape. It was very turbid. The leucocytes numbered 22,000 once, but generally ranged from 15,000 to 19,000. The author also cites a case illustrative of the group in which the punctures were first made late in the case to ward off threatening acute hydrocephalus. The aggravation of symptoms about the fortieth day suggested this complication and puncture showed a pressure of 490 and 320 millimeters. After escape of 25 and 37 cubic centimeters the condition improved remarkably, but severe symptoms recurring two days later, the punctures were repeated morning and evening, and again the next morning, after which the patient, a young man of 21, was able to sit up for an hour. This was the sixty-seventh day of his illness, and complete recovery soon followed. No ill effects from the puncture were observed in any instance; the technique is simple and easy, and can be applied in the home. The writer warns against allowing more than 50 cubic centimeters of the cerebro-spinal fluid to escape. The Weichselbaum-Jäger intracellular diplococcus was found in 40 out of his 45 cases. H. Lenhartz (Münchener medicinische Wochenschrift, March 21, 1905).

COBRA VENOM, THE INFLUENCE OF, ON THE PROTEID METABOLISM.

Practically no change in rate of proteid metabolism was induced by the administration, in spite of well-marked local reaction. A slight decrease in the proportion of urea nitrogen, quite insignificant compared with that produced by diphtheria toxin and various drugs, was observed. A slight rise in the proportion of ammonia nitrogen occurred. There was a slight rise in the proportion of nitrogen in purin bodies. The nitrogen in other compounds showed no constant change. The P_2O_5 excreted showed no constant change, but in two experiments there was a slight rise.

The change produced in the proteid metabolism is, therefore, small, and such as it is, being in the directions of decreased elaboration of urea and increase in the proportion of nitrogen excreted as ammonia, it seems to indicate a slight toxic action on the hepatic metabolism rather than a general action of the proteid changes; and tends to confirm the view that the poison acts chiefly upon the nervous system. James Scott (New York Medical Journal and Philadelphia Medical Journal, May 13, 1905).

COLITIS AND APPENDICITIS, RELATIONSHIP BETWEEN.

It is easy to understand how an appendicitis may give rise to a colitis by contiguity, and this inflammation may spread up the ascending colon and into the other parts of the large bowel. In fact, the colitis may be so prominent as to overshadow the symptoms pointing to appendiceal inflammation. The familiar form of mucous colitis due to coprostasis may be indirectly caused by appendicitis, since the latter disease often causes constipation, probably by interference with the nervous mechanism of the bowel. The author cites two cases in which a colitis obscured a coexisting appendicitis because the inflamed appendix was situated behind a distended right colon; when the latter was cleared of gas and fæces, the appendicitis came to light. The form of colitis termed mucomembranous may exist for years without any serious disturbances; but it is possible for the same process to extend to the mucous membrane of the appendix, and in this case the peculiar anatomic features of the organ greatly increase the dangers of the disease. A true ulcerative colitis may also extend to the appendix, adding an additional element of danger to an already serious condition. C. B. Lockwood (British Medical Journal, March 4, 1905).

COLON BACILLUS, ACTION OF THE INTRACELLULAR POISONS ON THE.

The colon bacillus produces a powerful poison when grown on artificial media. This poison is intracellular in character, and is contained within both the living and the dead bacterial cell. The poison can be separated from the other constituents of the bacterial cell only by means which chemically break up the latter.

The peritonitis which occurs after intraperitoneal inoculation with the colon bacillus is due to the presence of the poison in a combined and not in a free state. The intracellular poison of the colon bacillus causes a marked fall in the body temperature. The poison of the colon bacillus apparently causes death by paralysis of respiration.

The intracellular poison is an essential group of the bacillus and can be built up synthetically on proteid-free media. This intracellular poison is the poison which causes death in animals inoculated with cultures of the living colon bacillus. V. C. Vaughan, Jr. (Journal of the American Medical Association, April 29, 1905).

CONSTIPATION, CHRONIC.

The writer discusses particularly the conditions consequent on an imperfect evacuation of the large bowel. In the majority of cases this is associated with the symptoms popularly comprehended under the term constipation, but in a small proportion, while the large bowel up to the hepatic flexure or even to the splenic flexure may be constantly or frequently loaded, yet the patient obtains from the overflow a daily movement which is usually solid, and, consequently, makes no complaint of constipation. The large intestine, whose vitality has been depreciated, both by local inflammatory changes and by the general loss of tone, is thereby rendered liable to some specific infection, and ulcerative, membranous or other forms of colitis may develop in consequence. The condition frequently dates from a very early period, when, owing to the unsuitable feeding of a child, the intestine, and particularly the large bowel, are distended with gas, rendering the whole of the abdomen abnormally prominent. The cæcum and ascending colon appear to suffer most severely, owing to the fact that this portion of the bowel is hung up at the hepatic flexure, which is rendered more acute by the distention and consequent elongation of the transverse colon in a downward direction. This distention, by dragging on the band which supports the splenic flexure, renders it difficult for the contents of the transverse colon to pass into the descending colon. In consequence of this distention, the large bowel becomes more or less inflamed, and this inflammation may be sufficient to produce a distinct peritonitis, as manifested by effusion. The inflammation of the cæcum and ascending colon produces an adhesive process between the outer wall of the bowel and the peritoneum. These adhesions help to support the increasing weight of this portion of the bowel and to some extent oppose its distention and downward displacement. Precisely similar changes take place at the splenic flexure. After a time these adhesions develop into distinct mesenteries and strong bands. The bowel is less able to perform its functions; the intestine finally becomes bound down; the sigmoid is so contracted that it ceases to be a loop and forms a straight conduit, the presence of the inflamed bowel in the true pelvis interferes with the functions of the ovary and the fallopian tube, and in this way constipation would appear to play an important part in the sterility so common among women. The stomach function is finally interfered with and the kidneys become mobile. The treatment is purely operative. W. A. Lane (British Medical Journal, April 1, 1905).

COPPER, ACTION OF COLLOIDAL SOLUTIONS OF, UPON BACILLUS TYPHOSUS.

There is a natural tendency for typhoid bacilli to die when the water containing them is allowed to stand for a long period. There may be a temporary increase in the number, but this is followed in several hours or days by a decrease and a final disappearance.

Trials were made as to the period of total disappearance of typhoid organisms which had been placed in sterile Schuylkill water and in that taken directly from the tap, and from the river surface, containing large numbers of water organisms. These waters were placed in vessels of glass, porcelain, tin, and copper, and their contents, kept at room temperature, were plated every fifteen minutes for periods ranging from three to six hours. All the experiments were repeated many times.

Sterile drinking water in clean copper vessels inoculated with typhoid bacilli invariably showed that the bacilli had all perished in one hour. Water similarly treated in tin vessels invariably showed living organisms at the end of twenty-four hours. Water similarly treated in glass vessels exposed to light showed varying results, but in no instance had the typhoid organisms all perished in three hours. Water similarly treated in enamel vessels showed a slight diminution of the number of typhoid organisms in three hours. Water similarly treated in aluminium vessels showed a disappearance of the typhoid organisms in three hours.

Raw tap-water in glass vessels showed an increase in the number of organisms in three hours; occasionally, there was a slight diminution in their number. Raw tap-water in copper vessels in one experiment showed a diminution from 384,000 germs per cubic centimeter to 18,000 per cubic centimeters in three hours. Usually the diminution was not so great. Raw tap-water containing large numbers of river organisms and considerable vegetable matter, when inoculated with millions of typhoid organisms and placed in a copper vessel showed that the typhoid were killed off in from one and three-fourths hours to two and one-half hours.

Water containing collodial copper has a more rapid tonic action upon typhoid organisms than upon river-water organisms. The quantity of colloidal copper given off from a one-liter copper vessel in three hours was 1 part to 4,000,000. This amount killed off the added typhoid organisms in from one and three-fourths to two and one-half hours, and chemical experience has shown that this amount of colloidal copper is harmless when taken into the human system.

In epidemics of typhoid fever water could be purified of typhoid organisms by allowing it to stand in a copper vessel for three hours. A. H. Stewart (American Journal of the Medical Sciences, May, 1905).

CUTANEOUS AFFECTIONS, REFRIGERATION IN TREATMENT OF.

Carbonic acid is the refrigerating fluid preferred for this purpose at Neisser's clinic at Breslau. The surface is sprayed with the carbonic acid as when making frozen sections. The broad perforated nozzle of the vial is held about 1 cubic centimeter from the skin, and the fluid is forced out by a bulb. In half a minute the skin is frozen hard. There is anæmia at first; this is followed by intense hyperæmia, and half an hour later by profuse serous transudation. In twelve hours an inflammatory redness develops, with blisters. When the freezing has been very intense, actual ulceration may follow. When it is necessary to repeat the application, an interval of five to ten days is interposed. Three sittings in less than a month are generally sufficient. This method of treatment proved particularly effectual in 9 cases of lupus erythematodes thus treated. From three to nine applications were made and the patches healed remarkably promptly, but traces of recurrence became visible after a few months, showing that the refrigeration needs to be combined with some other measure to ensure permanency. The writer thinks the ideal combination is with crude hydrochloric acid, according to Dreuw's technique, substituting carbonic acid for the ethyl chloride. Tuberculous skin affections are evidently the chosen field for this mode of treatment when phototherapy is impracticable for any reason. A lupous patch about six months old, on the forearm, healed with a keloid cicatrix after two applications of the carbonic acid and hydrochloric acid. In another case, two lupous patches on hand and arm ulcerated at first under three weeks of the combined treatment, but then healed over smoothly. All were favorably influenced and apparently cured to date. The experiences at the clinic were with psoriasis, primary sores, leg ulcers, and sycosis, besides the tuberculous affections. The primary sores all healed rapidly after a single application of the refrigeration and hydrochloric acid, before mercurial treatment had been instituted. M. Juliusberg (Berliner klinische Wochenschrift, March 6, 1905).

DIABETES MELLITUS, THE NATURE OF.

Excess of sugar in the blood, which is the condition precedent of glycosuria, may be caused by overproduction of sugar in the system or by diminished use or excretion. There is practically no evidence of either of these last processes. There is convincing evidence that at one stage, at all events, of diabetes there is increased production.

Overproduction of sugar may depend upon some digestive irregularity, whereby more sugar than normal is poured into the blood from the food, or upon manufacture of sugar from the tissues of the body. We have sufficient evidence that both these processes are at work in diabetes, in that at first the output in the urine can be controlled by limiting the diet, whereas, later, this is not possible. But whereas, there are a considerable number of conditions in which sugar appears in the urine apparently as a result of absorption of additional sugar from the alimentary canal —these conditions being identical with diabetes only in the single fact of the appearance of sugar in the urine, while they run an entirely different clinical course—it is in diabetes mellitus alone that we have at any time evidence of formation of sugar from the tissue-cells of the patient. This autolytic formation of sugar, if it may be so called, is the characteristic feature of diabetes in so far as the production of sugar is concerned.

It involves less of an assumption to suppose that this autolytic formation of sugar is present in diabetes all through the disease than to suppose that it ensues after a time as a result of the presence in the blood of excess of the very substance—sugar—into which the cells finally break down. The absence of proof of the existence of this process in the early stages of the disease, when the glycosuria is controlled by diet, may be due to the body possessing a certain power of utilizing sugar in its nutritive processes, so that only the excess above a definite quantum appears in the urine.

There is sufficient evidence available to establish beyond the possibility of doubt the fact that there is some connection between the pancreas and diabetes. Although it is not yet proved, yet it is becoming increasingly probable that the pancreas is diseased in all cases of diabetes mellitus. An increasing bulk of evidence is also accumulating to show that the function of the pancreas which is in abeyance in diabetes is normally performed by certain special groups of cells known as the islands of Langerhans, which are distinct from the ordinary secreting cells of the gland, but which are not improbably formed from the acini. The special lesion of these islands—hyaline degeneration—which has been associated with diabetes by some writers, is not present in all cases of the disease, and may be found (in a less developed state) in other conditions.

The action of the pancreas may be exerted in the direction either of supplying a substance necessary for the assimilation of sugar by the cells of the body or in that of counteracting a poison which in some way causes accumulation of sugar in the blood. There is little or no evidence in favor of the former possibility; in favor of the latter there are the results of experimental intoxication with phloridzin, with suprarenal extract, and with other substances, and a few inconclusive results obtained by injection of secretions derived from diabetic patients.

We are not yet in a position to state with any certainty what tissue in the body gives rise to the sugar formed in diabetes. The theoretical possibility that sugar may be derived from fat is supported by certain observations which prove that a serious disturbance of the adipose tissue exists in diabetes. Further, if this hypothesis be admissible, a certain unity will be introduced into the conception of diabetes, the phenomena of which will be explicable as manifestations of a single process occurring in a single tissue.

Lastly, glycosuria as opposed to diabetes may be due to mere excess of sugar poured into the blood from the alimentary canal in excess of what the system is capable of assimilating; or it may be due to causes acting analogously to the diabetic puncture of Claude Bernard and leading to a discharge of sugar by the liver from its stores of glycogen. W. C. Bosanquet (Lancet, April 22, 1905).

ECZEMA, CHRONIC, AS A COMPLICATION OF THE SENILE DEGENERATIONS.

This skin lesion having its initial onset during old age can usually be attributed to the circulatory changes, and their consequent degenerations. Usually it is an eczema erythematosum. The pathological changes in the skin are due to deficient nutrition, resulting in an alteration in the epithelial layers associated with a dekeratinization in the upper layers, œdema, and an immigration of exuded cells. After considering the symptoms and clinical picture of the disease, which he regards as purely a local manifestation of the circulatory and other changes, he states that although these cases often prove very resistant to treatment, yet in the majority of cases a more or less permanent cure, and in all cases a great amelioration of the symptoms, can be effected by care and perseverance in a rational line of treatment. The writer lays great stress on making a careful general physical examination, determining accurately the condition of the heart and blood vessels, the lungs, kidneys, etc., and meeting any pathological condition by its appropriate treatment. The circulation should be properly maintained and the emunctory carefully watched. Water should be taken freely, but in small quantities at a time, to secure rather a constant flushing, than an overdistention of the heart and blood-vessels. Moderate exercise is advantageous.

The local treatment should have for its object stimulating and thereby improving the peripheral circulation of the blood and lymphatics. Carefully regulated and systematic rubbings and frictions best meet these conditions. Using the greatest amount of surface of the palms of the hands and fingers as can be well adapted to the affected surface, the writer adopts a combination of effleurage and *massage à friction,* the strokes of the hands following as nearly as possible the course of the veins and lymphatics. For lubrication a fine quality of olive-oil is used, and with this for medication a pure finely powdered zinc oxide; each application lasting from twenty to forty minutes, given every night, preferably just before retiring to secure sleep. Where more stimulation is necessary a strong tincture of pix liquida is used. Every second night before the application, the patient is given a bath at 94° F., using a pure olive-oil soap. Under these methods of procedure, if carefully followed, a more or less permanent cure may be expected in most cases within from two to eight weeks. Medwin Leale (American Medicine, April 15, 1905).

ENTEROSTOMY.

Enterostomy is always a life-saving measure, never an operation of choice. It is not indicated when a more ideal surgical procedure is feasible. In the hands of an experienced, carefully-trained abdominal surgeon, capable of dealing with grave emergencies, an enterostomy is rarely resorted to; but the better the surgeon, the more quickly will he adopt any measure that will save his patient. Every abdominal surgeon, according to the abundance of his material, must find cases in which only an enterostomy can with propriety be done.

When an enterostomy is indicated, to hesitate is to lose the patient; to operate promptly, dextrously, and with celerity, means to tide the patient over the imminent peril and spare him for future consideration. J. W. Long (American Medicine, April 8, 1905).

EPILEPSY, AUTOPSY FINDINGS IN.

The writer reports the results of careful autopsies on 16 epileptics at the New York State Institution for Epileptics. In 12 cases there were valvular changes of the heart, most frequently of the mitral valve (80 per cent.), less so of the aortic, and still less frequently of the tricuspid valves. These he considers generally as secondary results of the special strain due to the major epileptic attacks. Capillary changes, tortuosity, and aneurysmal dilatations were observed in several cases, and were attributed to the same causes. In 8 of the cases where the lungs were examined there was acute pneumonia as a contributory cause of death. The cerebral changes were very striking. In 10 cases there was a marked thickening of the pia, chiefly over the frontoparietal lobe. In other cases there were vascular lesions, circumscribed atrophy of 1 frontal lobe, subdural hæmorrhage (1 case), internal hydrocephalus (1 case), cerebellar cyst (1 case), and shrinkage of convolutions of vermis and adjoining cortex (3 cases). The most striking changes were noted in the thalmic region. The writer suggests that there was probably an optic atrophy in some of these cases, and hence the importance of fundal examination in epileptics. The importance of good clinical histories in these cases is also emphasized. B. Onuf (Journal of the American Medical Association, April 29, 1905).

ETHER NARCOSIS BY RECTUM.

Experience has shown that with this method of producing narcosis with ether, the patient passes under the influence of the drug rapidly and with no sense of suffocation; that less ether is used, not only in producing the narcosis, but also in maintaining it; that the stage of excitement is lessened or absent; that the ether recovery is more rapid, and that the disagreeable aftereffects of inhalation ether narcosis are diminished or absent. It is also noteworthy that alcoholics pass through the stage of excitement with little, if any, resistance or struggling. Although the greater part of the ether is eliminated through the lungs, the direct irritation of the concentrated vapor is overcome and postoperative pneumonia should be lessened. A free and continuous access to the field of operation is a great advantage to the surgeon. In operations on the head, face, mouth, nose, throat, ear, eye, and neck, the absence of the ether cone not only lessens the technical difficulties of the operation, but also minimizes the chances of sepsis, and lessens considerably the time necessary to perform the operation. To overcome irritation of the rectum the authors use a specially devised apparatus for producing narcosis. To obtain the best results it is essential that the bowels should be thoroughly cleaned out. The authors report 41 cases, 17 of which received ether by mouth preliminary to the rectal method, and 24 cases which were started by rectum. Among this series were cases of fracture of the skull, tubercular glands of the neck, carcinoma of the upper lip, skin graft, plastic operations on the face, adenoids, amputation, circumcision, osteotomy, etc. J. H. Cunningham, Jr., and F. H. Lahey (Boston Medical and Surgical Journal, April 20, 1905).

GALL-STONE DISEASE, FEVER IN.

The investigations of the writer disprove the older theory that fever in gall-stone disease is due to reflex action on the heat centers. There can be no doubt that the fever is of infectious origin; if there is no infection, there can be no fever. Not every case of infection of the biliary passages, however, produces a general febrile reaction. The fever depends upon the nondevelopment of sufficient protective powers in the organism. The protection of the body against the effects of infection may lie in the development of an antitoxic immunity, or in the production of local conditions in the biliary passages that limit the action of the bacteria on the body. If a new organism is introduced into the gall-bladder and becomes active, a fresh febrile reaction will be set up. Likewise, if those organisms already present in the biliary tract reach parts as yet unaffected, a fresh outbreak of disease may be produced. The absence of fever in gall-stone disease does not indicate, therefore, that there is no infection, unless it can be shown that there has never been a febrile reaction to the presence of the gall-stones. Diagnostic and prognostic conclusions must be drawn only with the greatest care from the tendency of fever to recur with more severity and greater frequency, or *vice versâ*. A series of severe attacks indicates a spreading infection, but this may occur even with very slight febrile reaction. The persistence of high fever in chronic cases is a bad sign. The later the fever sets in during an attack of gall-stones, the more favorable the prognosis. Repeated attacks of fever with undiminished intensity point to chronic impaction in the common duct. A fall by crisis indicates that the infected zone has again become sterile; if, however, the fever falls by lysis, it does not indicate a termination of the infection. If icterus accompanies the fever, it indicates that the infection has reached the smaller biliary passages, where moderate swelling produces obstruction. The regular, simultaneous occurrence of fever with jaundice points tc chronic impaction of a stone in the common duct. Regarding operative therapy, the author has noticed that death from operation always occurs in cases that come to operation during high fever. Rise of temperature after operation is almost invariably due to bacterial infection of the bile. H. Ehret (Zeitschrift für klinische Medicin, Bd. lv, p. 249; American Medicine, May 20, 1905).

HAND STERILIZATION.

In carrying out hand sterilization, mechanical and chemical methods are employed. (1) *Mechanical.* — Careful use of a stiff nail brush with soap and hot water removes many bacteria and detaches superficial epidermal cells and grease with contained organisms. The time required and the injurious effect on the hands render it beyond the limit of practicability to produce efficient sterilization by this method alone. (2) *Chemical.* — Ordinary operating-room methods are to a considerable extent inefficacious in rendering the hands sterile. The fact that cultures of a staphylococcus could be obtained from an inoculated silk thread after thirty minutes in a watery solution of corrosive sublimate (1 in 1000) speaks for the weakness of this popular preparation. Absolute alcohol has but a slight germicidal power, but the diluted fluid (70 per cent.) has a far greater action than a watery solution of bichloride or biniodide of mercury (1 in 1000) or a saturated solution of permanganate of potash. Prolonged use of alcohol, however, will cause pain, roughen the skin, and may produce eczema.

The writer has held that the ideal cleansing agent must be a solution capable of dissolving fatty matter and of penetrating the epidermis, strongly germicidal, rapid in action, and non-injurious to the skin. After long experimentations the writer suggests the unpurified clove oil as an approach to the ideal. After five minutes' scrubbing with soap and hot water the skin should be dried with a sterile towel and rubbed for one minute with alcohol to remove any remaining moisture. Clove oil is then rubbed into the skin for five minutes and afterward washed off with alcohol. A slight burning sensation may result, but the skin is not injured. The hands should then be covered with dry sterile rubber gloves. Wet gloves macerate the skin, which may readily yield organisms which have not been destroyed through any undetected hole in the glove. The use of various "hand coatings," wax paraffines, and rubber solutions are not to be recommended, as they are prone to crack and peel off in long operations. J. C. Webster (American Journal of Obstetrics, April, 1905).

HÆMOPHILIA, RESEARCHES IN.

The writer had the rare luck to observe four typical cases of hæmophilia and to study the peculiarities of the blood in this strange disorder. According to some, the condition is due to high blood-pressure, but this is improbable, since diseases commonly associated with high blood-pressure, such as chronic nephritis, do not usually run with hæmophilia symptoms. In the author's case, the figures obtained with the Riva-Rocci instrument were normal or below normal. Microscopical examination of the blood showed only a moderate, relative diminution of polynuclear leucocytes, with relative increase of lymphocytes. The absolute number of leucocytes was normal or diminished. In two cases, the platelets were also counted repeatedly, but their number was never above normal. The alkalinity of the blood, the dry residue of the serum, the depression of the freezing point and the amount of fibrin in the blood, were not altered. The time of coagulation was estimated most carefully and it was found that in the intervals between the hæmorrhages, clotting was much delayed, but normal, or even hastened, during severe bleeding. The following new method was employed: A column of blood, about one centimeter high, is allowed to flow into a capillary pipette, one to two millimeters in diameter. An absolutely clean, white strand of horse-hair is then passed into the blood, and drawn out a short distance every half to one minute. If the hair has been carefully deprived of all grease, no blood will adhere to it at first, but as soon as coagulation has set in, the withdrawn section will no longer appear white, but red. The rapid clotting during bleeding, despite continued hæmorrhage, is probably due to an abnormal quality of the vessel walls. Under normal conditions, the latter probably furnish certain substances necessary for the production of fibrin-ferment (thrombo-kinase) locally at the site of injury, so that a clot will soon obstruct the opening in the vessel. During hæmophilia, the torn edges of the vessel do not supply the blood with this substance, hence no local clot forms. The imperfect clotting during the intervals is due to a similar deficiency on the part of the blood cells and the hæmatopoietic apparatus. Chemical changes in the vessel-walls will also explain the occurrence of spontaneous hæmorrhages and the reported cases of hæmophilia of single organs (Senator's renal hæmophilia). Very little can be done for the disease, except to improve the general constitution. The local hæmorrhages are best controlled with compression, gelatine and adrenalin, but the latter two drugs should never be injected subcutaneously. It is not likely that the local application of thrombo-kinase will do much good. There is as yet no drug from which good results can be expected on internal administration. H. Sahli (Zeitschrift für klinische Medicin, Bd. lxv, Nu. 3 und 4; Medical News, May 6, 1905).

HÆMORRHAGES OF THE INTESTINES, TREATMENT OF.

Excellent results have been obtained by the writers in the treatment of intestinal hæmorrhages of typhoid fever by hot water and calcium chloride, administered by irrigation. The amount of calcium chloride in twenty-four hours which is given to a patient is one gram by mouth and three grams by irrigation. These workers have found that the calcium chloride is habitually well tolerated. The duration of treatment varies according to the dose. Four days is considered long enough by certain authorities. Others continue it for a longer time when the doses are very small. The elimination of the salt is sufficiently rapid so that it does not accumulate in the organism. It is well always to find out first if the patient has normal kidneys before giving it. It is considered beneficial to clear the intestine of extravasated blood. Putrefaction cannot then take place, and one cause of intoxication is removed. The irrigations should be given carefully and slowly. About a liter of water is used; the patient should be in dorsal decubitus, and the operation should take about fifteen minutes. Mathieu and Passier (Revue Française de Médecine et de Chirurgie, March 20, 1905; Medical Record, April 8, 1905).

HEART, ACTION OF STRYCHNINE ON THE.

From clinical experiences and research, the writer concludes that strychnine does not act directly on the heart. Its action is exerted on the nervous system, inducing vasoconstriction with increased blood-pressure. It is indicated in cases of heart trouble and neurasthenia with depressed vitality and lessened elasticity of the vessel walls. He has frequently found that it produced great subjective improvement with increased strength and appetite. He gives about 5 milligrams a day for ten days as the maximum dosage, bearing in mind the cumulative action of the drug. Gennari (Riforma Medica, February 25, 1905; Journal of the American Medical Association, May 13, 1905).

HEART STRAIN IN GROWING BOYS.

The author states that the passage from physiologic to pathologic distention is abrupt. The muscle fails to respond to increased functional stimulus and nutritive supply, from protoplasmic inadequacy. Fibrous hyperplasia and changes in the muscle fibers follow.

Thus can be explained the symptoms of overstrain produced by mental shock, direct violence, or illness. The exercising boy is accustomed to extreme breathlessness, but he recognizes acute dilatation as a sudden evil. It may bear no relation to the severity of the strain to which he has been exposed. The writer doubts whether the heart of the truly healthy boy ever breaks down as the result of athletics as practiced in the great schools. There must have existed some cardiac insufficiency, either inherent or due to some condition such as anæmia or recent influenza. Tendency to recurrence is common to all cases. There may or may not be constant symptoms or signs of inefficiency. The prognosis must be guarded, and every return to active exercise looked on as an experiment. The heart may be strong enough for a life work that does not entail great stress, but not strong enough to stand an anæsthetic or some acute illness. A good muscle may compensate for a faulty valve, but there can be no compensation when it is the myocardium itself which is at fault. A. Lambert (Medical Chronicle, February, 1905).

INFLUENZA BACILLI, INFECTIONS OF THE RESPIRATORY TRACT WITH.

Of 186 non-tubercular infections of the respiratory tract, observed clinically, for the most part, bronchitis, a mixed infection with various organisms, has been found in 120 (64 per cent.). A comparatively pure infection with one group of organisms was found in 66 cases (36 per cent.). Of these pure infections those due to influenza bacilli comprise the largest group, with a smaller number of cases of pure infection with the pneumococcus, micrococcus catarrhalis, etc. The pure infections, however, tend to become mixed, as the case progresses, and the observer must then remain in doubt, in the presence in the sputum of two or more groups of organisms, as to the relative importance of any one of the infecting agents.

In the clinical picture, the symptoms of onset, the course and duration of the different pure infections, there seems to be nothing distinctive. They all tend to set up diffuse or local bronchitis and a varying degree of broncho-pneumonia. The amount of prostration may be as great in one as in the other.

The pathological picture in cases of broncho-pneumonia, due to the different organisms, likewise seems to be similar in the character of the exudate, its varying extent and intensity and the tendency, in a small proportion of cases, to end in permanent damage to the pulmonary substance. These results of pulmonary invasion are not infrequently mistaken clinically for pulmonary tuberculosis. Of 85 cases of pneumonia, associated with various organisms, well marked localized pulmonary abscesses or induration, or both, were found in 8. No tuberculosis could be demonstrated at autopsy. From the clinical resemblance of such cases to pulmonary tuberculosis, the presence of the tubercle bacillus in the sputum must be regarded as the only infallible indication of this condition. F. T. Lord (Boston Medical and Surgical Journal, May 18, 1905).

INSANITY, MEDICAL TREATMENT OF.

In the acute stage of no disease is care and attention more necessary, nor more expensive, nor is there more hope of cure than there is in the early stages of insanity. It is essential to prevent exhaustion and to maintain the patient's strength by giving unirritating foods, easy of digestion, frequently and in small quantities. Plenty of sleep is necessary. For this purpose sedatives and hypnotics should be given. When there is delirium and when the pulse is full, bounding and firm, and there are symptoms of sthenic inflammation, venesection may prove beneficial. The wine of tartarated antimony for furious excitement, with vascular and cerebral congestion, especially when combined with morphine, is very effective. Aconite ice-bags to the head and continuous immersion are also useful. As a form of electric stimulation, electricity administered in the form of currents through water at 100° F., given daily, or several times a week, for about ten to thirty minutes, is particularly commendable. For controlling motor excitement, succus condii in doses of from 10 minims to 1 drachm, is efficient. It is best to begin with small doses and to combine these with strychnine or some other cardiac stimulant. As to hypnotics, for the cure or relief of insomnia, paraldehyde, in doses of $^1/_2$ drachm to 2 drachms, is the safest. It is not recommended in lung affections. Hyoscin, or hyoscyamin combined with morphine, are effective for excitement and sleeplessness. However, the bromides are the most useful. They may be combined with chloral and tincture of hyoscyamus, when these are not contraindicated. In cases of so-called hysterical insanity, as a possible remedy may be mentioned the use of thorium hydroxide, 500 grams to be placed in a cap over the head, worn day and night. This drug possesses radio-active properties. The writer states that two of his cases recovered under such treatment. Laxatives and purgatives are absolutely necessary, and in free doses, usually twice the amount required by a healthy person. The action of the skin should be assisted. This is done best by outdoor exercise. Speaking of alcohol, the author says that in the great majority of cases of insanity it is not essential, but he does not hesitate to use it in small doses, every few hours, in the exhaustion of acute mania, more especially in the puerperal form of insanity. It often interferes with digestion, and it is always best administered with liquid nourishment. However, it is a dangerous remedy in the various forms of mental depression, for it gives the patient a feeling of buoyancy and stimulation without any lasting benefit and without the sustaining action of food. Strychnine and nux vomica are useful in cases of exhaustion from acute insanity and in cases of cerebral anæmia. They should be given alternately for a few weeks, and with about one week's interval. R. Jones (British Medical Journal, April 22, 1905).

MENSTRUAL FEVER IN PHTHISICAL WOMEN.

This recurring fever in women who, in many instances, menstruate not at all or only very little, is not a matter of great importance, notwithstanding the monthly repetition of more or less pronounced congestive phenomena relating to the lungs. The author was unable to discover that it had any bearing upon the development of tuberculous lesions. They may remain in bed or not during the existence of this fever, the same as if the sufferers were not tuberculous. For those who have a tendency to hæmoptysis it is better to remain in bed when the catamenial crisis is present, and remain there during its entire duration. Hæmoptysis almost always precedes the menstrual flow and is arrested after the flow has been established. In cases of dysmenorrhœa one may administer hot drinks, sinapisms, foot-baths, hot applications to the abdomen, etc. Should hæmoptysis persist after the menstrual flow has occurred it may be treated by simply restricting the diet for twenty-four or forty-eight hours as a means of reducing the congestion. If amenorrhœa has supervened no treatment will be of much use, except that which will improve general nutrition. Sabourin (Revue de Médecine, March, 1905; New York Medical Journal and Philadelphia Medical Journal, April 29, 1905).

MENTOPOSTERIOR POSITIONS.

Engagement of the face in mentoposterior positions does occur, and the face may reach the pelvic floor without anterior rotation. In almost all cases the anterior rotation spontaneously occurs. Failure of chin to rotate anteriorly is a definite indication for interference. In entering the pelvis, the length of the child's neck may permit the head to sink well down into the pelvis before the thorax is involved. Delivery of the unrotated chin, although extremely rare, is by no means impossible, and occurred in the author's series in 22.6 per cent. of the impacted cases.

In 75 cases of impacted mentoposterior position, the maternal mortality (11.6 per cent.) under all circumstances about equals the maternal mortality (12 per cent.) of placenta prævia under aseptic conditions. The fœtal mortality under all conditions is only a trifle higher than the fœtal mortality of intrapartum eclampsia under the best and most modern conditions, and is far better than the reputed (100 per cent.) mortality.

In the management, the position must always be corrected if the rotation does not occur spontaneously. Version is the operation of election if the head is not engaged and manual flexion has failed. Version is contraindicated after engagement. Manual correction by the Baudelocque, De Lee, Thorn, or Volland methods should always be attempted. Forceps should be used with the utmost caution, if at all, and as a last resort before mutilating operations, for the fœtal mortality is very high (50 per cent.), and if employed, only the axis traction instrument should be chosen. If symphyseotomy is done, case should be taken to operate while the child is vigorous enough to justify it. Asepsis in the conduct of these cases ought to show a considerable reduction in the mortality figures. C. B. Reed (American Journal of Obstetrics, May, 1905).

MERCURY, ACTION OF.

The writer reviews various theories that have been promulgated to explain the therapeutic effect of mercury in syphilis, and says that so far at least they have led to but little definite information. The older action is probably unfounded, for the amounts absorbed are far too small to be able to unfold a diffuse power of this sort. The most recent view is that of Schade, who, starting with the work of the synthetical chemists in the production of artificial indigo, has developed the subject of the catalytic action of the heavy metals as oxidizing agents. This action of mercury is shown by the blueing it produces in tincture of guaiac in the presence of resinified oil of turpentine, or of peroxide of hydrogen. That this action is due to electrical changes is illustrated by the change of form manifested by a globule of the metal when placed in turpentine or in tincture of guaiac. In the first fluid it becomes a flattened mass which resembles melted lead and retains any shape that may be given it, while on transfer to the tincture it at once resumes its normal characteristics. The phenomenon is ascribed to a positive electrical charge in the one fluid and a negative one in the other. Schade believes that through its catalytic stimulating effect on the tissues the mercury enables the latter to repair the damage caused by the syphilitic poison. The process is not one of antitoxin stimulation, as some authors have averred, but one of simple antagonism to the toxins. Düring (Münchener medicinische Wochenschrift, March 14, 1905).

MILK, DIGESTION OF.

The amount of casein coagulating ferment produced in the stomach varies considerably in different persons in both normal and pathological conditions, and those who have a gastric juice poor in this ferment are subject to gastrointestinal troubles when placed on a milk diet. The chemical study of the digestion of milk and the determination of the coefficient of the intestinal utilization of the constituent elements of milk show that there is a distinct relation between the secretion of this ferment and the digestion of fatty material. It retards the passage of the milk along the intestinal tract so that the fat is subjected for a longer time to the action of saponifying ferments, while at the same time the absorption of fatty material during intestinal digestion is favored. But when this ferment is not present in sufficient quantity the fatty material in the milk is badly digested, and this indigestion gives rise to the above mentioned intestinal troubles when persons with this lack in their gastric juice are put on an exclusive milk diet. Leon Meunier (Presse Médicale, April 1, 1905; New York Medical Journal and Philadelphia Medical Journal, May 6, 1905).

MYOPIA.

The writer considers the causes of myopia due to increase of the intraocular pressure in the posterior portion of the bulb, such as sewing by persons with a tendency to myopia, anatomical peculiarities in the eyes of myopics, etc. These conditions are due primarily to diminished resistance of the posterior portion of the myopic eye. The modern method of treatment is to correct fully far and near vision, but in high degrees of myopia and in elderly persons, under-correction is necessary. Helbron (Berliner klinische Wochenschrift, March 20, 1905).

NEPHROPEXY.

Nephropexy is justifiable on a displaced kidney after operation thereon, involving it or its pelvis or ureter, or to relieve hydronephrosis or hæmaturia from a non-replaceable kidney. Hepatopexy, splenectomy, gastroplication, gastrojejunostomy, and suture of the recti may be occasionally indicated.

The main obstacle to nephropexy in women lies in the greater obliquity of the lower ribs, which prevent suturing the kidney high enough to avoid harmful compression by the ordinary corset and waistbands. Nephropexy is unjustifiable when, in order to place the sutures, it is necessary to drag the kidney farther down.

Nephropexy may relieve the symptoms due to kidney mobility, but in order to overcome those caused by the general ptoses it has been necessary to adopt a new principle, viz., (*a*) gravity replacement by the semiopisthotonos posture; (*b*) support of the replaced viscera by a corset made to order from measurements taken while the woman is lying down, laced with two strings, inserted from above down, put on while in the inclined dorsal posture, and fastened in front from below upward. By this method the viscera cannot prolapse while the corset is worn, and with this support nephropexy for replaceable kidney, *per se*, is but rarely indicated, multiple operations can be avoided, and the patient be placed under curable conditions. A. E. Gallant (New York Medical Journal and Philadelphia Medical Journal, April 29, 1905).

NERVES, REGENERATION OF.

It is possible to functionate two opposing groups of muscles by a single nerve, which previously supplied one group only; it is possible to innervate fairly completely muscles with a much smaller number of motor horn cells than usually bring about this effect. When the central end of one nerve is joined to the peripheral ends of two nerves there are many more fibers in the peripheral nerves than in the central nerves, so that the nerve fibers in the proximal trunk divide on going to the distal trunks. In some cases at least some of the branches from one nerve fiber go to supply one set and others the opposing set of muscles. This may prevent very delicate movement being restored. After this form of suturing the arrangement of the nerve fasciculi in the peripheral nerves is considerably altered. B. Kilvington (British Medical Journal, April 29, 1905).

NON-MALIGNANT DISEASES, TREATMENT OF, BY THE ROENTGEN RAYS.

It is necessary to distinguish between the non-malignant diseases which should, and those which should not, be treated by the x-ray. While the continual cry of technique may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator accounts largely for successful or unsuccessful work. It is just as essential to administer a therapeutic dose when applying the Roentgen rays as it is when prescribing powerful drugs. Idiosyncrasy is not a frequent cause of excessive dermatitis. A dosage which causes stimulation of healthy tissues will usually produce a slight reaction in diseased tissues. At all times it should be remembered that it is not so much the x-ray that cures as the judgment with which it is employed.

The x-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method. The x-ray, supplemented by Finsen light, is the most efficient therapeutic agent for the treatment of lupus. The x-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease, and selected cases of goiter. R. H. Boggs (Medical News, May 6, 1905).

NURSING, TECHNIQUE OF.

Among the points emphasized by the writer in his study of the best means to promote the nursing capacity, is the advisability of giving the child only one breast at a meal. This allows the one breast used to be thoroughly emptied, while the other breast has a doubly long rest. The longer the intervals between meals, the hungrier the child, and the more energetically it sucks. This energetic sucking is the most important factor for the development of a good nursing capacity. The breast generally responds to energetic sucking with a copious secretion of milk; feeble sucking elicits but a feeble secretion. The author has had wealthy women with weakly infants come to his maternity for a week or so to give the breast to strong, energetically sucking infants, while their infant was nursed by someone else with well-developed breasts. When they left their infants were much stronger, while their breasts had responded to the energetic sucking with a copious secretion of milk. A generous diet without any special restrictions should be advised. It seems to be immaterial whether the woman drinks milk or water for her beverage, but two to two and a half quarts of fluid should be ingested during the twenty-four hours. One of the wet nurses trained on these principles secretes 3610 grams of milk a day, and has been nursing five infants for several weeks, and is in robust health. O. Rommel (Münchener medicinische Wochenschrift, Bd. lii, Nu. 10, 1905).

PAROTID GLAND.

The function of the parotid gland is the subject of a scientific research by the writer who found that the secretion of the gland varies in amount and quality according to the stimulus given by contact with various substances in the mouth. The amount of secretion of the parotid varies as the square root of the amount of stimulant applied to the mouth. Chewing has much to do with the rapidity of the secretion from the parotid, and the saliva is not only more abundant, but more viscid when mastication is vigorous and prolonged. When food is chewed on one side, the corresponding parotid gland works more than the opposite gland, while when chewing goes on both sides both glands work equally. The alkalinity of the saliva is in proportion to the amount of ash therein. As the amount of ash increases, and as the rapidity of the secretion is enhanced, the alkalinity grows more marked. The digestive power of the saliva is proportionate to the amount of organic matter therein. The digestion of starch by the parotid secretion, after it reaches the stomach, is possible in proportion to the alkalinity of the saliva. The action of ptyalin in the stomach is only possible during the beginning and the final stages of digestion. At the acme of gastric digestion, when the free hydrochloric acid is abundant, the action of the saliva is only possible when there are large amounts of highly alkaline saliva in the stomach. The influence of saliva in the digestion of proteids reduces itself to a dilution of the hydrochloric acid of the gastric juice, and in disease makes hypoacidity worse, while it tends to make hyperacidity less severe. E. A. Zherbovski (Roussky Vratch, March 5, 1905; New York Medical Journal and Philadelphia Medical Journal, April 29, 1905).

PLEURAL AND CEREBRO-SPINAL FLUIDS, CYTODIAGNOSIS OF.

In *pleural effusions* the cytological formulæ stated by Widal and Ravant hold good in the great majority of cases. An excess of lymphocytes indicates generally a tubercular origin; a preponderance of polymorphonuclear cells an inflammatory process, due, for instance, to a pneumococcal or streptococcal infection. A passive or mechanical transudation contains, as a rule, a large number of endothelial cells. It must be borne in mind, however, that especially in the earlier stages of tubercular effusions, departures from the rule frequently occur.

The *cerebro-spinal fluid in meningitis* of tubercular origin usually shows lymphocytosis, while in inflammatory states caused by the meningococcus of Weichselbaum, the pneumococcus or streptococcus, and in posterior basic meningitis it is characterized by an excess of polymorphonuclear cells. Many discordant results, however due it may be in some cases to a secondary infection, have been recorded. Cytological examinations may thus help us, not only in differentiating the various kinds of meningitis, but also in distinguishing meningitis from such conditions as the cerebral irritation of typhoid fever and other infectious diseases, from tetanus, and hysterical pseudo-meningitis, in which there is no increase of cells in the cerebro-spinal fluid.

The presence of lymphocytosis is almost constant in *general paralysis of the insane*, in *tabes dorsalis*, in *syphilitic diseases* generally of the central nervous system, and may be useful for diagnostic purposes in distinguishing these diseases from other affections more or less resembling them. General paralysis and tabes promise to be diagnosed even in early stages by the use of cytological examinations, as shown by Maillard. The importance of early antisyphilitic treatment in these diseases is generally acknowledged, and cytology would seem to afford the means of making an early diagnosis.

The author contends that in no case should a diagnosis be based wholly on the result of the cytological examination, but this should form merely a valuable link in the chain of clinical evidence. As in ordinary blood examination, the great importance of making more than one cytological count of the pleural or cerebro-spinal fluid, whenever this is possible, is emphasized. Edward Turton (Practitioner, April, 1905).

PNEUMONIA, CARBONATE OF CREOSOTE IN.

Creosotol is of decided value in both the bronchial and lobar forms of pneumonia, but response is more prompt in the bronchial varieties. Children respond more promptly than adults. Mild cases seen early are practically well in twenty-rour hours. In severe cases there is usually a response within twenty-four hours and normal conditions are reached in from two to five days by lysis. Complications are rare, and if present are mild. Convalescence is shortened, the return to health being remarkably rapid. C. P. Stackhouse (Pennsylvania Medical Journal, April, 1905).

POTT'S DISEASE, TREATMENT OF.

In speaking of the non-surgical methods in treating Pott's disease, the author says that the old routine of giving codliver-oil and iodides is not to be commended, as it does not give good results, and is apt to produce disturbances of digestion. He prefers, above all, the use of hydrotherapy in the form of cold sponging. This method increases the appetite, promotes nutrition, and the general development of the child, as well as the formation of new blood cells. In five cases reported, the writer came across abscesses, of which one healed spontaneously; one had to be opened widely, and the rest were punctured by means of Plessi's cannula. In all cases local healing followed. He prefers puncture, with lavage of the cavity, to all other methods of treating abscesses of Pott's disease. The operation is easy and harmless. The antiseptic fluid to be used should be mild, such as salicylic acid, 1 part in 1000. The pressure to be employed in injecting it should be sufficient to distend the walls of the sac. The injections of iodine, iodoform, oil, etc., are useless. Hydrotherapy acts not only by its antiphlogistic, but also by its special stimulating effects on the spinal nerve roots. The author thinks that it should be used always in Pott's disease, except in those acute cases in which there is high fever and great pain, and in which immobility is demanded. Arturo Campani (Riforma Medica, April 8, 1905; New York Medical Journal and Philadelphia Medical Journal, May 20, 1905).

PROSTATECTOMY, CONSERVATIVE PERINEAL.

After about 200 operations on account of hypertrophied prostate, among which were 85 Bottini operations with 6 deaths, 20 superapubic prostatectomies with 3 deaths, the author has come to the conclusion that for most cases perineal prostatectomy is the safest and surest and quickest method of curing the patient. Whereas, the Bottini method is the simplest and quickest for a certain limited number of cases, which can best be determined by the cystoscope, it is not so safe, and nothing like so uniformly sure of relieving the obstruction as the perineal enucleation. The suprapubic route may be used in certain large intravesical lobes.

The recognition of diverticula, incarcerated calculi, pedunculated prostatic outgrowths, and early carcinoma of the prostate cannot be made without the cystoscope, and an accurate mapping out of the prostatic enlargements is of great advantage in performing a perineal operation where careful preservation of important and non-obstructive structures is the aim of the operator. H. H. Young (Annals of Surgery, April, 1905).

PROSTATIC ENLARGEMENT.

The general practitioner should be prepared at least to make a rectal examination of the prostate whenever symptoms point to that region, and if hypertrophic changes are found, and after careful treatment if the tumor does not diminish in size, surgical intervention should be advised and insisted upon.

If infection has not preceded catheter life, it is sure to follow. In this condition the patient's life is most pitiable.

Early prostatic operations are not dangerous; late ones are always dangerous, and frequently fatal. The general practitioner has the fate of the prostatic in his hands, either to guide him over his trouble, or to advise him to continue a life of miserable suffering which intensifies itself toward the end. C. E. Barnett (American Medicine, April 8, 1905).

PUERPERAL FEVER, CLINICAL ASPECTS OF.

The writer defines puerperal fever as a disease which results from the inoculation of wounds with pathogenic organisms. Puerperal ulcers may be present upon the vaginal mucous membrane. with false membrane and fever. Hospital gangrene, with fever and prostration, is now rarely seen. Spreading traumatic gangrene is also rare. It is accompanied with false membrane and suppurative inflammation of the veins, lymphatics, and muscular structure of the uterus. It quickly extends to other tissues and is usually fatal. Sapraemia is a local poisoning which disappears when the infecting cause is removed.

Septicæmia means the entrance of toxic microbes into the blood with intense systemic disturbance. It is usually quickly fatal. Pyæmia usually results from uterine phlebitis. Fever is intense, and there are many secondary abscesses. Death is the usual result. Peritonitis quickly follows delivery, from direct injury, from the extension of endometritis or from extension of inflammation of the pelvic cellular tissue and uterine muscular tissue. It is usually quickly fatal. Late peritonitis may be caused by substances retained in the uterus, by the extension of gonorrhœa, or by the injury to a pre-existing tumor or abscess during labor, the inflammatory symptoms being deferred until a week or longer from the occurrence of labor. Pelvic cellulitis usually develops rapidly to peritonitis, and may be quickly fatal or it may result in a chronic condition resulting in absorption or suppuration. surgical interference being eventually required in the latter case. Herman (Practitioner, March, 1905).

PUERPERAL SEPTICÆMIA, PREVENTION OF.

In puerperal septicæmia the lymphatics are invaded by microbes conveyed on the fingers of the attendant or from the patients' uncleansed external genitals. Infection may also arise from pre-existing disease in the uterus or its appendages. Preventive measures consist: 1. In avoidance of infection by clean hands with or without gloves. 2. In cleansing the external genitals. 3. In avoiding laceration by skillful conduct during the labor. 4. In avoiding uterine manipulation to separate the placenta, which does not exclude manipulation during hæmorrhage. 5. In general hygienic care during pregnancy. A vaginal douche may be given at the end of labor, but subsequently cleansing should be accomplished with cotton moistened in bichloride solution. Puerperal infection is preventable, and should be prevented by conscientious individual effort. Berry Hart (Practitioner, March, 1905).

RHEUMATOID ARTHRITIS AND RAYNAUD'S DISEASE.

The so-called "dead" fingers, local syncopes, and asphyxias are often precursors or, so to speak, prodromal symptoms of rheumatoid arthritis. They are not invariably present before periarticular swellings occur, and in some cases they appear to arise contemporaneously with the joint swellings; but the fact still remains that people who suffer with them are likely to develop rheumatoid joints, especially if exposed to any infection—sore throats, influenza, etc.

The diverse etiology of Raynaud's disease and rheumatoid arthritis teaches that both these disorders are, as a rule, secondary to some other disorder; in other words, that they are both of them symptoms complex. This supplies us with a therapeutic indication, namely, that in any given case, if such vasomotor phenomena present themselves, a search should be made for some concurrent disorder, and treatment directed thereto. Unfortunately, in many cases no source of toxæmia can be discovered, but the author would emphasize the importance of treating gastro-intestinal disorders and uterine affections. Macalister lays great stress upon affections of the nasal mucous membrane, and cites cases in support.

In cases of rheumatoid arthritis where such prodromal vasomotor phenomena have been absent, others may take their place, such as those pertaining to the muscular sphere—sudden weakness, painful cramps and muscular atrophy; in others, sensory phenomena predominate, namely, definite neuralgic pains or paræsthesiæ.

One important feature of all these prodromata is their tendency to be more marked in those extremities which afterward become the seat of peri-articular swellings.

Realizing the intractable nature of rheumatoid arthritis when well marked, too much stress cannot be laid upon any symptoms, which, though apparently trivial in themselves, may give timely warning and enable us possibly to avert the development of rheumatoid arthritis. R. L. Jones (Birmingham Medical Review, April, 1905).

RINGWORM OF THE SCALP, TREATMENT OF.

The writer's preference in the treatment of ringworm of the scalp is for the croton-oil treatment, which is the most certain and effective of all. Attention is called to the fact that it requires most careful control and cannot be left to inexperienced hands. As practiced by him, it consists in the daily application of an ointment which contains 1 drachm of croton oil to 1 ounce of a suitable base. It may be used oftener than once a day if necessary to produce a suitable degree of inflammation. The treatment must be continued until all the diseased hair stumps have fallen away or have been epilated. The tissues are kept scrupulously clean, and crusts are not allowed to form. For the treatment of residual and isolated stumps there is no method which will compare with croton-oil needling. T. C. Fox (Practitioner, April, 1905).

ROENTGEN RAYS AND STERILITY.

Attention is called to the fact that abrogation of spermatogenesis has been found to occur among those who have worked much in an x-ray atmosphere. It is not known as yet to what degree and kind of x-ray exposure the worker of average age and health must have experienced before this condition resulted, or whether there is a gradually progressive tendency from the first or a sudden climax after some particularly long and intense action of the rays. The cases examined show that all who have been working at x-rays as a specialty for years, whether physicians or artisans in electrical apparatus, suffer with this condition. The question of prognosis is of great importance, but upon this point the authors are not yet prepared to report. Brown and Osgood (Archives of the Roentgen Rays, March, 1905).

SEPTIC PERITONITIS, GENERAL.

An early diagnosis and immediate operation are urged by the writer. Free flushing of the abdominal cavity with removal of all poison possible is of greatest importance when the infection is general. An elevated position, draining the contents of the abdomen into the pelvis, the point of greatest resistance, is of great benefit. In profoundly septic cases in which general infection is present adhesions form slowly, allowing frequent subsequent flushing of the abdominal cavity with hot salt solution, which does no harm and aids materially by removing large quantities of toxic material from the abdomen. The subcutaneous or intravenous dose of salt solution is valuable in that it dilutes the poison, lessens the toxæmia, and stimulates the kidneys to free action. Free catharsis should be obtained at the earliest possible moment, and should be kept up during the entire convalescent period, thereby aiding in the elimination of much septic material which has been cast into the bowel and which would be reabsorbed if let alone. Furthermore, troublesome adhesions are less liable to form if the bowel is kept active. The use of some cathartic salt in the water used for washing out the stomach aids materially in establishing peristalsis. I. B. Perkins (Denver Medical Times, April, 1905).

SPONDYLOSE RHIZOMYELIQUE.

Ankylosis and rigidity of the spinal column is a frequent manifestation of advanced rheumatoid arthritis. It may develop early in the course of the disease and be associated with irritative root symptoms. If the disease described by von Bechterew is to be considered as a distinct clinical entity separate from rheumatoid arthritis, it should only be diagnosticated as such after the disease has progressed over a considerable period of time without involving joints other than those of the spinal column. D. J. McCarthy (New York Medical Journal and Philadelphia Medical Journal, April 8, 1905).

SUPRARENIN GLYCOSURIA, EFFECT OF FEVER, INFECTION, AND RENAL INJURY ON.

A series of experiments were undertaken by the authors to throw light on the still very obscure conditions controlling the excretion of glucose by diabetes, in fever, during the course of intercurrent infections, etc. Rabbits were used as experiment animals, and the glycosuria produced by suprarenin injections was studied after the temperature had been artificially raised by injury to the corpus striatum, after cantharadin or streptococcus bouillon injections, and temporary ligation of the renal arteries. The results showed that the effect of the artificially produced fever on the sugar excretion is variable and does not as yet permit of satisfactory conclusions. Bacterial infection causes diminution of the glycosuria only when the suprarenin is injected shortly before death, perhaps owing to accompanying renal lesions. The sugar excretion is regularly reduced or caused to disappear if the renal functions are interfered with, as, for example, by the temporary ligation of the renal arteries. Neither these results nor those obtained on dogs having experimental pancreatic diabetes can be directly transferred to human pathology, but they indicate the importance of observations on sugar retention in diabetics with diseased kidneys, and it is to be hoped that clinicians will interest themselves in this field. Ellinger and Seelig (Münchener medicinische Wochenschrift, March 14, 1905).

SYPHILIS AND LONGEVITY.

Syphilis, like unmodified variola and tuberculosis, may destroy life. In its gravest expression, when not destructive of life, it may disfigure and mutilate the human body to a formidable extent. The disease should be counted among the dangerous scourges of the human family. Once in the presence of infection, neither physician nor patient can afford to neglect skillful, energetic, and prolonged treatment, with a view to setting aside the possibilities of future danger.

In the case of inherited syphilis, the fatality, working destruction alike of ovum, fœtus, and infant, varies between 80 and 90 per cent. of the infected. The mortality, exceding that resulting from any of the great plagues of the human race, is due to the unprotected condition of the embryo.

By reason of the absence of trustworthy statistics, the percentage of fatality in acquired syphilis, where the germ of the disease is implanted upon a previously sound organism, cannot be accurately determined. Estimates based upon clinical records furnished in the larger cities of the United States, coupled with the facts detailed in the volumes of vital statistics published by the United States Census Bureau, make it appear probable that the fatality in such acquired disease is represented by less than 2 per cent.

The fatality in acquired syphilis results less often from the active invasion of the disease than from an entailed loss of resistance, by reason of which common agencies of disease produce serious effects, especially in the nervous system.

The efficient factors in the production of these effects are fairly well understood. They include chronic alcoholism, long-continued tobacco narcosis, extreme fatigue, severe affliction, the malnutrition that may result from poverty, and the stress and strain endured by the nervous centers in the anxieties of business. In the absence of these efficient factors in the production of the grave conditions which may follow syphilis, the skillful management of that disease may terminate with brilliant results in from 75 to 80 per cent. of acquired cases.

The damage wrought by syphilis is not to be measured solely by its lethal issues, though these are of chief concern to the life insurance-actuary. The lowering of the standard of average health wrought by the inroads of the malady, often appreciable in the skin, bones, testes, liver, and other organs, and the moral results of the acquisition of the disease popularly described as "loathsome," may jeopard the best play of the body functions, pave the way for the inroads of other toxins, and possibly lay the foundation for mental degeneration, alienation, and even suicide.

The expectation of life after acquisition of syphilis is based in part only upon the tendencies of the morbid process. Such expectation is in large measure affected by the inherited tendencies, the habits of life, and the environment of the individual. The longevity prospects are unquestionably better for women than for men, by reason of the relative placidity of existence of the former.

Briefly, the medical examiner, confronted with a history of syphilis in an applicant for life insurance, should be influenced in acceptance or rejection of the risk not merely by the historical facts of the case, including the character of the symptoms exhibited, and the duration of time since the last objective manifestations of the disorder were recorded, but especially by the reasons which would lead to his acceptance or rejection of applicants giving a history of other enfeebling maladies.

The ideal applicant for life insurance who has suffered from syphilis should have had active and unmistakable symptoms of that disease early in life; should have had, after efficient treatment, several years of exemption from all evidence of infection; should have an excellent family history, free in particular from instances of nervous diseases affecting immediate relatives; and should be leading, and have led, a life relatively free from strain, stress, and excess of all kinds, including indulgence in alcohol, tobacco, or other of the narcotico-stimulants. J. N. Hyde (Medicine, April, 1905).

TAPEWORM, TREATMENT OF.

The author slights the preliminary preparation of the patient and uses a much smaller dose of the vermifuge than some consider necessary. He gives from 5 to 8 grams of extract of male fern in the morning, fasting. Six hours later—not before—he gives the purgative, preferring a "bitter water" for the purpose. Oil is liable to promote the absorption of the fern extract, and calomel is unreliable in these cases. Several instances are related to show the success of this simple technique after the failure of ten or more previous "tapeworm treatments." When the patient vomits easily, he pours the extract into the stomach in the form of a thin gum arabic emulsion. In one instance morphine was injected at the same time. I. Boas (Therapeutische Monatshefte, vol. xviii, No. 12; Journal of the American Medical Association, April 22, 1905).

TENDON TRANSPLANTATION.

Tendon transplantation, alone or combined with arthrodesis or other bone operations, offers prospects of materially adding to the comfort, convenience, and usefulness of a very large class of patients otherwise more or less dependent upon forms of mechanical apparatus. The frequently observed improvement in the action of muscles that previous to operation gave evidence of being paralyzed or atrophied from disuse shows the capabilities of restoration when the offending abnormalities have been removed. It is impossible to estimate properly what the future development in a given case will be. The coöperative, intelligent care of the patient must be depended upon in securing the best permanent results.

Muscles cannot develop when they are used to excess or are under constant strain. The atrophy from disuse, whether caused by tension or relaxation, often presents all of the appearances of paralysis. The avoidance of overstrain upon incapable muscles is often demanded so that the minimum muscle force may accomplish the maximum of action.

The after-treatment is fully as important as the surgical procedure, and must be given prolonged consideration in order to accomplish the best ultimate results. Arthrodesis alone possesses advantages in cases incapable of benefit from tendon transplantation. Various forms of osteotomy, osteoclasis, and other bone operations are available for the removal of deformity and for the prevention of undue strain upon the soft parts around a joint. H. A. Wilson (American Medicine, April 8, 1905).

TETANUS AND QUININE.

The writer's attention was attracted to the number of cases that have been reported in which tetanus followed an injection of quinine under aseptic precautions. He has been experimenting and reports that quinine injected into rabbits at the same time or following inoculation with tetanus germs, had an unmistakable action in favoring the development of the tetanus. This action was both local and general. As an instance he mentions that inoculation with tetanus on the other side of the body from an injection of quinine, was followed by symptoms of tetanus, and the germs were found congregated, not at the point of inoculation, but at the point where the quinine had been injected, on the other side of the body. This favorable action occurs apparently only when the quinine is injected subcutaneously. The facts related suggest that when an injection of quinine is to be made in a person who has any sores or excoriations liable to shelter or allow the entrance of the tetanus bacillus, it would be wise to inject antitetanus serum at the same time. E. Vincent (Annales de l'Institut Pasteur, vol. xviii, No. 12; Journal of the American Medical Association, May 20, 1905).

THIERSCH'S SKIN GRAFTING, MODIFICATION OF.

While fully recognizing the superiority of Thiersch's method of skin grafting over the older methods of Reverden, the writer holds that in cases of old and healing wounds it is quite unnecessary and, indeed, disadvantageous, to carry out the former surgeon's practice of scraping away the granulations, and of applying the large and thin flaps of skin to a raw and bleeding surface. In the course of the last eight years the writer has applied Thiersch's skin flaps directly to intact granulating surfaces, with result that could not possibly have been improved had he removed the granulations. The condition for success in such practice are a careful and prolonged aseptic dressing of the wound and surrounding skin and a healthy condition of the open surface, indicated by small, ruddy, and firm granulations. The author insists on the importance of keeping the flaps of skin in position by gauze attached to the surrounding parts, of collodion, and of frequent application over the gauze of boric-acid fomentations. After the eighth day, when the transplanted flaps have usually become attached, the dry and covered wound is powdered with euphorin, and protected by layers of dry gauze and cotton wool. The objections to Thiersch's practice of removing granulations are the pain caused by this part of the operation, the loss of time in stopping the hæmorrhage, and the delay, due to exudation, in the establishing of vascular connections between the raw surface and the flaps of skin. Isnardi (Zentralblatt für Chirurgie, No. 14, 1905; British Medical Journal, May 6, 1905).

THYROID GLAND; INFLUENCE OF DIET ON ITS STRUCTURE AND FUNCTION.

The writer's object is to show that different diets may cause histological changes in various organs and alteration in their functional activity; this being especially true of the thyroid gland. Two series of experiments were performed, one on fowls, the other on rats. The conclusions which were reached were: (1) An excessive meat dietary induces distinct structural changes in the thyroid gland; (2) these changes must be associated with a modification of the functional activity of the gland. As to the nature of the modification this diet may cause: (1) Excessive activity of the gland followed by diminished activity, or even exhaustion, of its function; (2) diminished activity from the outset; (3) alteration in the quality of the secretion, a persistent secretion. The clinical application of these data to the English people, with whom the quantity of meat consumed per capita has increased greatly since 1875, is that as a result of an excessive meat dietary there has been established in many individuals a change in the character of the thyroid secretion. When this change takes the form of a simple deficiency of the thyroid secretions the defect can be remedied by administration of thyroid extract. Watson (Archives of the Roentgen Ray, April, 1905).

TOURNIQUET, DANGERS OF THE.

Three instances of serious injury resulting from the application of the Esmarch bandage to arrest hæmorrhage after an accident are related by the writer. In one case the tourniquet had been applied very tightly and left for a day and a half above the severed brachial artery. There had been considerable hæmorrhage, and the patient, a robust young man, soon succumbed. The fatality may have been due to the acute anæmia alone, but there is a possibility that the products of decomposition after ligation of the artery may have induced intoxication of the organism, already enfeebled by the anæmia, when the constriction was removed. The tourniquet should never be left long, but should be removed at the earliest possible moment. It should be applied as close to the wound as possible. In two of his cases the limb had to be amputated at a much higher point than would have been required by the trauma alone. It should be more generally emphasized that all the parts below a tourniquet left for more than three hours, are exposed to the great danger of tissue death. Another important point to be borne in mind is that the injured part should have all the cleansing manipulations done before the tourniquet is removed. It prevents foreign matter and fluid from being sucked into the circulation, and consequently they should all be cleaned off before the circulation through the parts is restored. A. Ahlberg (Nordisches medicinisches Archiv, Stockholm, vol. xxxvii, Surgery, No. 1; Journal of the American Medical Association, April 8, 1905).

TUBERCULOSIS, ADAPTATION AND.

The writer emphasizes the fact that in infectious diseases in general, while the bacteria grow more particularly in one organ or tissue the successful counteraction of the disease is not a local matter. In fact, the tissues of the infected organ are so injured that they cannot themselves play any very active part. The counteraction is by the rest of the organism; in part by the leucocytes developed in the bone marrow and elsewhere; in part by other tissues, which discharge into the blood diffusible antitoxic and bactericidal substances. Particular attention is called to the recent observations of Wright and Douglas that the phagocytic activity of the leucocytes is not called into play to any extent unless the blood serum contains certain substances which activate the leucocytes. These substances appear to be developed apart from the leucocytes, that is to say, by other tissues of the body. Applying these considerations to tuberculosis, it is pointed out that when the tubercle bacilli grow locally there is a slow diffusion out of their toxins; and it is by the adaptation of the rest of the tissues to these toxins that the leucocytes and these other tissues become accustomed to produce diffusible antibacterial substances. In favorable cases these are present in amounts so considerable that the local growth of the tubercle bacilli is arrested and healing tends to ensue. Postmortem observations show that this arrest is the rule rather than the exception.

Applying these considerations to the treatment of tuberculosis, it is first shown that the tuberculin treatment is but an attempt to carry out the natural process; that tuberculin is merely a concentrated extract of the toxins of the bacilli, and these now are injected into the organism at a distance from the site of local growth of the bacilli. Their action must be to stimulate the cells of the rest of the organism, and to produce increased amounts of antibacterial substances. The cells, however, may be in a state of low vitality so that they do not react, and hence this treatment is by no means constantly successful. Modern treatment similarly is a carrying forward of the same idea. The disease as such is left severely alone, every attempt is made to improve the general tone of the organism by rest, good food, and fresh air. The cells gain improved tone and respond to the toxins, producing increased quantities of the antitoxic and antibacterial substances. Here, again, it is the body as a whole and not the local reaction that brings about arrest of the tuberculous process. The adaptive processes on the part of the bacilli are next considered. These also are capable of being modified according to alterations in their environment, so that by passage they are found to adapt themselves more and more to the organism of any particular species. By passage through the organism of one species the bacilli become more and more virulent for that species, and thus may become less adapted to growing the organism of another species. The author is of the opinion that this is the case in general, and with tubercle bacilli grown in the human or bovine organisms respectively in particular. J. G. Adami (American Medicine, April 29, 1905).

TUBERCULOSIS, EFFECT OF RAW MEAT ON NITROGEN METABOLISM IN.

The experiments conducted by the author tend to show that cooking materially affects both the absorption and retention of nitrogen, in the physiologic as well as in the tuberculous subject. While the total quantity of nitrogen present in the fæces on a diet of raw meat is increased, that increase is due entirely to the presence of collogen; the soluble and digestible nitrogen is actually diminished. Galatin has been shown to be by itself incapable of sustaining nitrogen equilibrium. The chief points of interest are that raw meat causes an increased retention of nitrogen, even with a diminished intake, and it also causes an improvement in intestinal metabolism, manifesting itself in the form of a diminution of the nitrogen in the fæces. Digestive leucocytosis is invariably larger on a diet of raw meat than on a diet of cooked meat. This may be correlated with the increased nitrogen retention, on the supposition that the digestive leucocytosis is the evidence of a functional activity on the part of the leucocyte, the object of the activity being the secretion of a body to link the absorbed nitrogen on to the tissue cells. J. J. Galbraith (Practitioner, February, 1905).

TUBERCULOSIS, STOMACH FUNCTION IN.

As a result of the examination of the stomach function in 26 cases of pulmonary tuberculosis, the author has found a marked tendency to hypoacidity, which is frequently transformed into anachlorhydria. The motor power is undisturbed. The first group examined included 10 cases early in the disease, the duration not exceeding nine months. In 8 cases there was a history of stomach symptoms, which in some cases antedated the lung condition and in others introduced or accompanied it. In 4 cases hydrochloric acid was always found, in 1 it was always absent, in 5 it was variable. Peptic digestion and the motor power seemed unchanged. In a second group of 11 cases of intermediate severity the duration of the disease was from five months to two years. Hydrochloric acid was present in 6 cases, absent in 3, variable in 1, and doubtful in 1. Peptic digestion was undiminished. In 5 cases of advanced tuberculosis the qualitative test for free hydrochloric acid was present once, absent twice, and at times was found in the remaining 2 cases. Peptic digestion was usually decreased. The acidity in the first group was about normal, but in the other two groups it was markedly diminished. It may be assumed, in cases where previous dyspepsias can be eliminated, that the digestive disturbances which introduce or accompany the tuberculous process are manifestations of the reaction of the system to toxic products; a reaction analogous, perhaps, to the rise of temperature following the administration of tuberculin. J. E. Munson (New York Medical Journal and Philadelphia Medical Journal, March 18, 1905).

TUBERCULOUS DEPOSITS IN THE TONSILS, SIGNIFICANCE OF.

The tonsillar tissue of the throat, because of its peculiar anatomic construction and its topographical relations, is more liable to become infected by tuberculosis than any other part of the upper respiratory tract. In nearly all cases of advanced pulmonary phthisis the faucial tonsils become inoculated. In about 5 per cent. of hypertrophied pharyngeal tonsils some form of primary tuberculosis will be found. Primary infection of the faucial tonsil is a rare condition.

Tuberculous adenitis in the cervical lymphatics develops in the majority of cases from infection originating sometimes in the faucial tonsils, but more frequently in the pharyngeal tonsil. The tubercle bacillus is probably unable to pass through the tonsils without having first overcome the vital resistance of the tonsillar tissue.

The danger of systemic or pulmonic infection resulting from a tuberculous lesion in the tonsillar tissues of the throat is about equal to that of tuberculosis of the cervical lymphatics. The lesion to be expected as a resultant infection from the broken-down glands of the neck is a miliary tuberculosis of the lungs. Further than this possibility, tuberculosis of the lymph glands of the neck is no more dangerous than a localized tuberculous lesion in any other portion of the body.

The tonsils are more resistant to the action of bacterial toxins than ordinary lymphoid tissue. G. B. Wood (Journal of the American Medical Association, May 6, 1905).

TYPHOID FEVER, PERFORATION IN.

Perforation of the bowel in typhoid fever is more common than is generally supposed, occurring once and a trifle over in every three deaths. The most common time of perforation is between the fourteenth and twenty-first days. In 92 per cent. of the cases in this series the perforation occurred between the second and fifth week inclusive. The earlier cases are probably perforation in a relapse; now and then perforation may occur without evidence of previous illness.

Perforation occurs in cases of all grades of severity, from the ambulatory to the hæmorrhagic type. It is most common in those with moderate (25 per cent.) and severe (50 per cent.) infection (75 per cent.). It is not more common in the hæmorrhagic than in the mild cases (8 per cent. each).

The ileum is the common site of perforation (86 per cent.); the majority occur within twelve inches of the ileocæcal valve; the appendix and colon respectively are the next most frequent sites of perforation in this series of cases.

Pain of some kind is present in 75 per cent. of all cases. In 50 per cent. of the cases the onset is sudden and severe and of increasing intensity, localizing itself to a special zone. In 20 per cent. of the cases the pain is of slow onset, not localized, with general distribution. In some cases (12 per cent. of this series) no pain is complained of, and the usual symptoms of perforation are absent.

Tenderness and rigidity are present in from 65 to 75 per cent. respectively of all cases, and are usually combined; in some cases either one or the other may be wanting; rigidity especially may be absent in cases with rather a pendulous and relaxed abdominal wall.

When perforation is suspected the temperature should be taken every hour; only by this means can the immediate rise and slow fall to normal or subnormal, which often occurs, be detected; in some cases, and especially those of extreme toxicity, no noteworthy change at all in the pulse, temperature, or respiration can be detected when perforation occurs. Diagnosis is then only an interference.

Distention (if absent during the course of the disease and at the time of suspected perforation) is a late symptom of perforation. The obliteration of liver dullness is not a reliable sign of perforation. The study of the leucocytes is of little aid. In a few cases their increase is such as to assure you of your diagnosis. In a considerable number of cases there is a decided reduction in leucocytes after symptoms of perforation. Differential counting is not of practical use.

Before being assured of the diagnosis right-sided pleurisy, pneumonia (especially in the young), cholecystitis, acute gastro-intestinal indigestion, femoral and iliac thrombosis, appendicitis, peritonitis without perforation, cystitis, rupture of a mesenteric gland, or even hæmorrhagic exudation into the abdominal muscles (Zenker's degeneration) should be considered. Even then mistakes in diagnosis will be made.

While nature will infrequently close one, two, or even three perforations, the only rational procedure when perforation occurs is operative interference. No case is too desperate for the attempt. Not infrequently the so-called mild cases succumb, while very ill ones recover. The diagnosis made, time for operation has arrived; its important point is rapidity. Closure of the perforation and drainage is all that is needed; fifteen to twenty minutes should suffice. J. A. Scott (University of Pennsylvania Medical Bulletin, May, 1905).

ULCERATIVE PROCESSES, CHLOROBROMIDE OF SODIUM IN.

The author advocates a solution of chlorobromide of sodium prepared as follows, in the treatment of ulcerative processes: To a convenient quantity of water add 3 per cent. sodium chloride, 0.1 per cent. bromine and 0.5 per cent. hydrochloric acid (C. P.). Subject this mixture to the action of an electrical current until such chemical action has taken place within the mixture as to convert all free bromine into a compound with the other elements present. The resulting fluid is pale amber in color, with a strong odor of chlorine, a slightly acid taste, and a specific gravity of 1022. It must be kept in amber-colored bottles, in a cool place, and tightly corked.

The writer has used this solution locally with very satisfactory results in chronic ulcers of the leg, regarded as hopeless, suppurative bubos which had resisted all other methods of treatment, and ulcerative cervical endometritis. It has also been administered by the mouth in pulmonary tuberculosis. It seems to have the power to check ulcerative processes in the lung and, if the disease is not too far advanced, ultimately to effect a cure. It must be given in free doses for a considerable period of time, from 1 to 1 $^1/_2$ ounces, four times daily, before each meal and at bedtime, on a stomach which is completely empty. One hundred cases were treated in this way and the results were satisfactory. H. W. Mitchell (Medical Record, April 1, 1905).

UTERINE MYOMA.

In fibroid tumors complicating pregnancy, from the fact that from 70 to 80 per cent. go through pregnancy undisturbed and that the mortality rate in 84 cases was 3.6 per cent.; that in one series of 23 cases, 6, or 25 per cent., were operated upon, it would seem that while the operation itself is attended with little danger, the conservative plan would be to operate during pregnancy only upon those tumors that interfere with the normal development of the uterus and its functions, either previous to the fourth month, if the uterus is prevented from rising out of the pelvis, or for pernicious or incontrollable vomiting, or if it is discovered that the tumor will in any way interfere with the normal expulsion of the fœtus at term.

Little authentic work has been done in describing fibroid tumors and heart disease. One series of 70 cases shows 45 with objective symptoms of heart trouble. Pinard describes post-mortems on cases dying with fibroid tumors that had fibrous myocarditis. The cause of the myocarditis is not known.

Studying fibroid tumors and malignancy there is a larger field of literature to draw from. Noble's collection of statistics of 988 cases shows that over one-third of the women would have died had the tumor not been removed. Cullen estimates malignancy at from $^1/_2$ to 2 per cent.; Bland Sutton at 5 per cent. This evidence is incontrovertible itself in favor of surgical treatment of all fibroids. W. M. Thompson (Chicago Medical Recorder, May 15, 1905).

WATER CURES, ERRORS IN.

The most common mistake is made with reference to the temperature. The more different the temperature of the water, under conditions otherwise the same, which comes into contact with the body, the stronger is the resistance of the organism toward the loss or gain of heat. Another mistake lies in the choice of the mechanical stimulant used. When water is used for defervescent purposes, it is wrong to begin with too low a temperature, to use too little mechanical irritation (friction), and to employ the bath for too short a time. In severe acute infectious diseases, the action of the water cannot be judged exclusively by its effect upon the temperature. In cases of collapse with cardiac weakness, the trunk should have cold compresses placed about it, while the extremities must be energetically heated. It is a blunder to use water at too high a temperature in the treatment of the anæmic, the chlorotic, and the convalescent. In giving sitz baths, loss of heat from that part of the body which is not in the water, can be avoided by thoroughly wrapping it in blankets. Winternitz (Berliner klinische Woehenschrift, April 10, 1905).

X-RAYS, METHOD OF MEASURING.

The writer proposes a method which is based on the power of the x-rays to ionize the gases through which they travel. The method, excepting for necessary modifications, to make it conform with the special requirements of the x-rays, is substantially analogous to that now commonly employed to measure the radioactivity of the radioactive substances. Air is rendered a conductor of electricity by the ionizing agent, and measurement of the amount of current flowing through it under given conditions gives an absolute index of the activity of the radiation. The instrument used, the electroscope, is charged by having brought into contact with the knob a rod of vulcanite which has been electrified by friction. The knob is brought into communication with a filament while the vulcanite is in contact and is released as soon as the filament has assumed a horizontal position. The electroscope is brought to the same distance from the tube as the patient or plate (in any position) and while the tube is running the shutter is open, and the time in seconds occupied by the filament in transit is noted. The number of seconds is the exact coefficient of energy of the rays, and when compared with any other reading made, under any circumstances whatever, with similar instrument, the ratio of energy of the two radiations will equal that of the two times. M. Franklin (New York Medical Journal and Philadelphia Medical Journal, April 22, 1905).

YELLOW FEVER, TREATMENT OF.

The great desideratum in the treatment of yellow fever is not to disturb the stomach and to relieve the congestion of the kidneys. The hot mustard foot-bath relieves cerebral congestion and headache and often induces free perspiration followed by sleep. Applications of ice or cold water to the head, face, hands, or back during the febrile stage are dangerous, because they produce a sudden cooling of the body surface and increase the existing congestion of the viscera. Sinapisms over the epigastrium relieve pain in the stomach as well as visceral congestion. Diaphoresis and diuresis should be promoted by means of large draughts of lemonade made with Seltzer water, hot decoctions of orange leaves, Vichy or soda water, or by rectal injections of fresh water. Opium in whatever form, should never be given. Neither are stimulants indicated, except in some cases in which the patient has been in the habit of using them. Iced champagne is best. When the pulsations of the heart fall to 50 or 60 a minute, digitalis should be given. Proper alimentation is of prime importance. During the onset of the attack no food should be given, and until convalescence is fully and completely established no solid food should be given to the patient. Absolute rest in bed in a ventilated room without draughts of air, or even temperature, is very important to the successful treatment of yellow fever. More essential than that is a calm and hopeful state of the mind and spirit of the patient. A. M. Fernandez de Ybarra (Therapeutic Gazette, April 15, 1905).

Correspondence.

WORKS AND NOT WORDS.

An Appeal from Mr. Bok to the Medical Profession.

Philadelphia, May 15, 1905.

To the Editor:—During the last year I have received hundreds of letters from physicians in every part of the United States commending the attitude of the Ladies' Home Journal in its efforts to awaken the public to an understanding of the patent medicine curse. Scores of commendatory resolutions from medical associations have likewise come to our company. All these have been gladly received and appreciated, and our acknowledgments in each case have tried to express this fullest feeling of satisfaction. It is, therefore, with no lack of appreciation that I say that, while these individual and association commendations have been pleasant, I could wish the sentiments therein expressed might have resulted in some effective coöperative work.

What I mean is this: During the past winter there was introduced into the Legislatures of not less than fourteen States bills which had for their object the regulation of the sales of injurious patent medicines, or the compulsory printing of the ingredients of these medicines, on the label of each bottle, under penalty of fine or conviction. Committee hearings were given on these bills in each State. The proprietors of some of the patent medicines were exceedingly active—and effectively so—in their opposition to these bills. Associations interested in the patent medicine traffic worked with unceasing vigil to defeat the bills— which they succeeded in doing. The newspapers in these States carrying the advertisements of patent medicines were notified that this legislation was not desirable. Skillful lawyers appeared before these committees in opposition to the bills. Every effort, in short, was made to defeat these measures, and in all save one State the bills were "killed."

Now, who appeared in favor of the bills at these hearings? Generally, members of the Woman's Christian Temperance Union whose zeal usually exceeded their discretion and judgment—well-intentioned but ineffective. In one or two cases, representatives of some liquor dealers' association appeared in behalf of the bills. But not in a single instance, and I speak by authority of personal representation at each of these hearings, did there appear a single physician or the representative of a single State, county, or city medical association. There was not the slightest active interest taken by physicians in these hearings, and yet scores of physicians wrote me irate letters after the bills were defeated, deploring the corruption (?) of the Legislatures in their States!

These hearings were usually of the most perfunctory order, and, from the side of any advocacy of the bills, absolutely without interest, since scarcely anyone appeared to give intelligent or convincing reasons why the bills should become laws. Now, I ask the physicians and medical associations of this country: how are we ever to secure effective legislation against patent medicines until some intelligent reasons are presented by intelligent people having the respect of a community, why such legislation should exist?

It is not only likely, but probable, that during the next fall and winter terms there will be introduced into the Legislature of nearly every State in the Union, a regulative patent medicine measure—bills which have a vital interest to every physician in the United States; and my object in this letter is to draw to the attention of every physician, and particularly every medical association, not only the need, but the necessity, for their coöperation in this legislative work.

It is not meeting this question for physicians and associations to contend that their appearance and arguments before these committees would be deemed as emanating from interested motives, and thus have no weight. Surely, the other side does not argue thus, and their appearance and arguments before these committees are certainly from "interested motives."

The statements and arguments of reputable physicians of the communities concerned would have the greatest possible weight before these committees. In fact, in several cases members of these committees have asked and desired that some physicians of standing should appear at the hearings, and marveled at their uniform and consistent absence.

Here is not only direct work for every medical association in America, but an actual crying need for such work, and, if I may speak a little frankly, a clear case of shirking responsibility where such work is not forthcoming.

I shall be in a position to know of the introduction of these legislative measures in any State where they are presented, and if in each State the leading medical association would appoint a committee, and a similar committee appointed by county and city associations, and the full name and address of the chairman of each committee can be forwarded to me, between now and October 1 next, it will afford me pleasure to communicate with such party immediately on the introduction of such a measure in the Legislature of his State and supply him with printed material, now being prepared, containing arguments for the regulation of the patent medicine traffic in America and showing what has been done by other nations.

But the fact cannot be too strongly urged that the most representative physicians in the State, city or county, the men occupying the highest positions in their professions and having the unquestioned respect of their communities should be members of such appearing committees. The greatest weight should be given to the arguments presented, ensuring the most effective influence.

It should not be necessary to add—but still I will do so, in case of the exceptionally suspicious mind that is always with us: that no advertising element, so far as the magazine of which I am editor is concerned, enters into these desires on our part or into the material being prepared. The publishers of the Ladies' Home Journal have no desire that their periodical shall enter into these hearings as a periodical, mentioned, quoted, or commended; they do not crave such advertising; the magazine does not need it. The periodical entered on its editorial treatment of the patent medicine curse from principle and from no other motive. Its only interest is the interest of the great public at large: not the commendation either of it or its editor. Both have received that at the hands of the medical profession. It now asks at the hands of that profession works, not words.

EDWARD BOK,
Editor of the Ladies' Home Journal.

Book Reviews.

THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By William A. Posey, A.M., M.D., and Eugene W. Caldwell, B.S. Second Edition, Thoroughly Revised and Enlarged. 690 Pages, with 195 Illustrations, Including Colored Plates. Price, $5.00, net. W. B. Saunders & Co., 1904.

That a second edition of this book on the therapeutics of the x-rays should be called for so soon should be both a matter of congratulation to its authors and an encouraging sign to workers that the general medical public of this country is taking an increasing interest in this subject. This edition, like the former, should be of great value, both to beginners in the practice of the use of the Roentgen rays, and to those more accustomed to their application.

The first half of the book by Caldwell dealing with the subjects of apparatus and radiography is quite unchanged. About one hunderd pages have been added to the second half of the work, dealing with the therapeutic side of the subject. Dr. Posey has gone somewhat more exhaustively into the subject in this edition, but we would like to see him lay more stress on the question of burns among x-ray workers and the means of avoiding them.

The section on cutaneous carcinoma and carcinoma of the breast and thorax has been enlarged by some thirty-five pages of interesting material. Many cases are added and the histories of several instructive cases reported in the first edition are brought up to date. A group of 69 cases of cutaneous carcinoma is reported in tabular form, giving results down to January, 1904, and in the section on carcinoma of the breast and thorax he gives a summary of a group of 31 consecutive cases of breast carcinoma.

There are a few new illustrations of clinical subjects, and these, together with those that appeared in the first edition, are of special interest in that they seem to be quite true to life and not overmuch touched up by the photographer.

Altogether the book maintains throughout a high standard of excellence, and cannot fail to be of the greatest use to anyone interested in this subject either as a text book or reference work.—H. H. R.

DIET IN HEALTH AND DISEASE. By Julius Friedenwald, M.D., and John Ruhrah, M.D. Published by W. B. Saunders & Co., Philadelphia. Price, $4.00.

It is satisfactory to review a book which is at the same time so comprehensive, scholarly, and judicious. The subject of diet has received immense attention of late, but many strange and irreconcilable views are recorded, causing readers to doubt the finding on a subject whereon such diversity of opinion can exist. Fortunately, two gentlemen have combined to produce a book which shall become an authority, and stand as the basis of thought and action.

While the volume is not large, nevertheless there is nothing omitted that demands attention. It is possible that more might be said, more details given, and this no doubt the authors will from time to time furnish. Meanwhile certain points stand out clear. There is nothing supererogatory. The statements are direct, with details sufficient where they are needed. It is adapted to the needs of the clinician, the student, and particularly the trained nurse. Rectal feeding, which is so difficult to teach, and on which so much contradictory data exists, is made plain, simple, and comprehensible. The subject of infant feeding alone is so carefully presented as to render the book necessary for all those who deal with the ailments of one-third of humanity. The diet, not only for infants, is thoroughly discussed, but also for those after the first year. Numerous excellent receipts are given in the chapter on "Diseases of the Stomach and Intestines," along with an ample amount of special diets. The article on diabetes, gout, obesity, and nephritis is admirable, and presents the views of the most eminent authorities. Hospitals and institutions will find this book necessary. Regular and special dietaries are given with hints as to most practical variants, and of ample scope, both from the standpoint of economics as well as acceptability.

The surgeons will find this book of much use as a guide to feeding after anæsthesia and operations, especially the methods of feeding after gastro-intestinal operations.

Diet is considered in its relation to various conditions of age, occupation, domestic and social planes.—J. M. T.

NURSING IN EYE, EAR, NOSE, AND THROAT DISEASES. By A. Edward Davis, M.D., and Beamon Douglass, M.D. 32 Illustrations. Philadelphia: F. A. Davis Company, 1905. Price, $1.25.

This little book purports to be written for nurses. It is so complete and includes so much that is interesting to the general practitioner as to be well adapted for use far beyond the range of its original intent. Of especial value may be mentioned the clear illuminating chapter on anatomy and physiology of the different organs mentioned which precedes the other chapters relating to the diseases and methods of treatment.

Under the heading of treatment also there is much that no one except the specialist is likely to know. Many of the procedures important to employ could only be understood by a specialist of considerable experience, and inasmuch as the directions to the carrying out of these is meant for nurses, the clarity of them would enable any practitioner to apply them himself in the absence of specialists. Altogether, it is an excellent little book, and would prove most useful for practitioners who may not be in immediate touch with specialists, and who are compelled to make use of such measures as are recommended themselves.—J. M. T.

PRACTICAL PEDIATRICS: A MANUAL OF THE MEDICAL AND SURGICAL DISEASES OF INFANCY AND CHILDHOOD. By Dr. E. Graetzer. Authorized Translation, with Numerous Additions and Notes, by Herman B. Sheffield, M.D. Philadelphia: F. A. Davis Company, 1905. Price, $3.00.

Dr. E. Graetzer was a pupil of Henoch, as he states in the preface, and leans toward his teachings. The scope of this little book of 540 pages is that of a compend, but an exceedingly full one, standing between the compend and the manual. The translator calls the book a miniature encyclopædia of the medical and surgical diseases of infancy and childhood, and he claims that no book on Pediatrics presents in so small a space such an abundance of practical and clinical material, pathological and bacteriological data, and details of etiology and diagnosis as the volume in question.

A careful review of the book makes clear that a vast lot of superfluous material commonly exhibited in books of this description is omitted—unnecessary illustrations, etc.; indeed, there are none in the book, nor diet lists, or cooking receipts. The subjects are presented clearly and succinctly, yet with reasonable fullness, omitting much of the usual description of the typical courses of disease. He has rather laid emphasis upon the numerous deviations from type, which so often baffle the practitioner. Altogether, the book is an excellent one which can be safely recommended to supplement the larger text-book, both for student and clinician.—J. M. T.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Reports of Two Cases of Cured Graves's Disease." By G. B. Webb, Colorado Springs, Colo., 1905.——"Glioma of the Nose: Report of Two Congenital Cases." By J. P. Clark, Boston, Mass., 1905.——"The Precise Measurement of the Primary and Secondary Deviation in Paralysis; With Remarks on the Regular Occurrence of Secondary Deviation in Congenital Paralysis." By Alexander Duane, New York, 1904.——"Congenital Deficiency of Abduction, Associated with Impairment of Adduction, Retraction Movements, Contraction of the Palpebral Fissure, and Oblique Movements of the Eye." By Alexander Duane, New York, 1905.——"Prism Exercises—Their Indications and Technique." By Alexander Duane, New York, 1904.——"Personal Observations on the Advantages of Certain Arctic Localities in the Treatment of Tuberculosis." Frederick Sohon, Washington, D. C., 1904.——"The Applicability of the Greenland Fjords to the Treatment of Tuberculosis." By Frederick Sohon, Washington, D. C., 1904.——"The Differentiation and Treatment of Eye Diseases Most Commonly Seen by the General Practitioner." By L. F. Love, Philadelphia, 1905.——"Three Cases of Poisoning by Potassium Cyanide." By J. I. McKelway, King's Park, Long Island, 1905.——"Lentigo: Unilateral Distribution; Report of a Case." By J. I. McKelway, Binghampton, N. Y., 1905.——"Pernicious Vomiting of Seven Years' Duration Cured by Suspension of the Kidney." By G. E. Shoemaker, Philadelphia.——"Bocetos Populares Sobre Historia, Literatura y Ciencias: 'Democrito,' 'Hipatia,' 'Miguel Servet.'" Por le Dr. David Cerna, Monclova, Coahuila, Mexico, 1904-1905.

The following monographs have been received from the United States Department of Agriculture, Washington, D. C.:—

Information Concerning the Milch Goats. By G. F. Thompson, 1905.——Imports of Farm and Forest Products, 1901-1903, by Countries from which Consigned. Compiled by the Division of Foreign Markets, 1905.——Exports of Farm and Forest Products, 1901-1903, by Countries to which Consigned. Compiled by the Division of Foreign Markets, 1905.——The External Parasites of Hogs. By E. C. Stevenson, 1905.——Alfalfa Growing. By A. S. Hitchcock, 1905. ——Lessons from the Grain-Rust Epidemic of 1904. By M. A. Carleton, 1905.——Raspberries. By L. C. Corbett, 1905.——Fungous Diseases of the Cranberry. By C. L. Shear, 1905.——The Corn Root-Worms. By F. H. Chittenden, 1905.——The Milk Supply of Twenty-nine Southern Cities. By C. F. Doane, 1905.——Trade with Noncontiguous Possessions in Farm and Forest Products, 1901-1903, 1905.——The Camembert Type of Soft Cheese in the United States. By H. W. Conn, Charles Thom, A. W. Bosworth, W. A. Stocking, Jr., and T. W. Issajeff, 1905.——Coyotes in Their Enonomic Relations. By D. E. Lantz, 1905.——The School Garden. By L. C. Corbett, 1905.——Report on the Gypsy Moth and the Brown-Tail Moth, July, 1904-1905.——The Imported Cabbage Worm. 1905.——Experiment Station Work, XXVIII. 1905.——Recommendations of State Game Commissioners and Wardens for 1905.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

THE FEASIBILITY AND VALUE OF ACCURATE METHODS IN CLINICAL INVESTIGATIONS.

THE lack of accuracy in methods has often proven a stumbling-block in clinical investigations: *i.e.,* often the investigator has found great difficulty in convincing his readers of the correctness of views brought forth, or of observations reported by him, for a lack of exact figures. How difficult is it, for instance, to record a gradual diminution of the knee-jerk by such vague terms as "subnormal," "weak," "almost absent," etc.! How difficult is it, therefore, for the investigator, not only to convince the reader, but even to convince himself, that such a diminution is in progress, if he has no definite figures on which to base his observations!

The feeling of dissatisfaction with such vague methods shows itself clearly in the manifold attempts at providing accurate means of registration. Not always have such attempts been successful. The attempts, for instance, of devising an instrument for reliable registration of the knee-jerk, allowing trustworthy comparisons in the same individual and in different individuals, have, to the writer's knowledge, met with very serious obstacles. In other fields, however, such attempts have proven successful and gratifying. Such a field, for instance, is ophthalmology. Here the mathematical accuracy with which vision, visual fields, range of accommodation, errors of refraction, etc., can be measured and registered, allow us to easily note and record the slightest fluctuations in function.

Undoubtedly even here sometimes when complicated conditions are present, these exact methods will fail us. The presence, for instance, of a cataract in a given eye will make it difficult to follow and correctly interpret diminution of vision occurring in that eye, if at the same time it presents an optic atrophy. But the fact that such complications deprive us of the proper use of such exact methods, does not gainsay their value. The conclusion remains that where such accurate methods are feasible they should be applied.

The writer on taking up Dr. Spratling's suggestion, to make investigations of a physio-chemic nature in epileptics, was first confronted with the significance of the fact just mentioned. Physio-chemical investigations may perhaps not be called clinical in the strict sense of the word, but are often closely allied to, and interwoven with, clinical problems, and often pave the way to the latter. This is true also for the investigations to be discussed here, and the title selected for this editorial will therefore appear permissible.

The particular field first selected by the writer was "the gastric functions of the epileptic." While it was and still is the writer's intention to take up this chemico-clinical problem as a whole, the chemical or chemico-physiologic side first presented itself.

It soon became apparent that only by accurate methods and critical discrimination could deviations from the normal be definitely recognized and eventually correctly interpreted. In investigating the gastric functions of epileptics the problem, therefore, first came up how to obtain reliable data on the composition and digestive power of the gastric juice *in general.* It is the result of this forestudy that shall here be presented to the readers.

To simply study the gastric acidity, and to infer from the degree of acidity the amount of pepsin present in the juice, as is so often done, seemed unscientific. Direct tests of the digestive power of the juice appeared, therefore, imperative, and it seemed desirable to extend such tests to different foodstuffs—starch, casein, etc.

For testing the digestion of albumin Mett has recommended glass tubes of an inner caliber of from 1 to 2 millimeters diameter, into which the white of an egg is drawn up and then coagulated by heat. The digestive power of the juice to be tested is calculated by the length of the albumin column digested off in a given time. This method promised to give accurate results, provided the albumin was of even composition and density throughout the tube; that it was evenly coagulated and contained no air bubbles; provided, furthermore, that the albumin column, digested under normal circumstances, was long enough to easily note or record deviations from the normal.

The chief difficulty was encountered in the last-mentioned requirement, namely, of obtaining a sufficiently long column of digested albumin.

Pawlow and his pupils, whose inspiring work has shed so much light on the physiology and chemism of digestion by the accuracy, ingeniousness, and planfulness of methods, used Mett's tubes with great success, and evidently did not encounter the difficulty last mentioned. But we must not forget that their digestion tests were made with pure juice, not with a juice strongly diluted by a test meal, as is the case in clinical tests. While, therefore, owing to the high concentration of the juice, the digested column in their experiments was long, reaching in some instances the length of 8 ½ millimeters in *ten* hours at body temperature, the figures obtained by the writer with human gastric juice within *twenty-four* hours, also at body temperature, were 4 to 5 millimeters only, or thereabouts. With such small figures it seemed hopeless to obtain accurate comparisons, and imperative to dilute the albumin to such a degree that the figures would be large enough to easily show deviations from the normal. However, there was not much hope that a strongly diluted albumin would coagulate in a continuous column, or at least would not shrink away from the wall of the tube. In order to reach the desired results, the idea therefore suggested itself of evenly distributing the albumin over a "vehicle" or "carrier," and coagulating it within the tube. Such a method eventually could be applied also to the digestion of casein, starch, etc.

The requirements of such a vehicle were that it allow free penetration, that it would not be digested, or slowly digested, much slower than the test material carried by it, and that in such case the rate of its digestion be exactly known. A full knowledge of the laws of penetration and of digestion became thus necessary. Only by such knowledge could the results obtainable with such vehicles be properly utilized.

Penetration Laws.—After having first selected a substance which seemed suitable for a vehicle, penetration experiments were made with this substance without at first using it as a carrier for material that was to be digested. The choice fell on agar as a medium to be penetrated, but coagulated albumin was used also in the same rôle for some of the experiments. The "penetrating" fluid selected as a first choice was hydrochloric acid, in view of its being a normal constituent of the gastric juice.

The results obtained and their relative rapidity were gratifying; and the most satisfactory feature was that the more minutely all details were observed, the more accurate became the results, confirming more and more precisely the laws formulated from the preliminary experiments.

I shall first enumerate the laws so far established for the penetration of hydrochloric acid with relation to agar at 37° C. To what extent they may prove applicable also to other media to be penetrated, I am not prepared to say. But in a number of experiments the first named law was found to apply also to the penetration of hydrochloric acid[1] through homogeneous coagulated egg albumin.

1. *The velocity of penetration is in direct proportion to the square of the distances penetrated.* (This law may eventually find its limitation in high or very low concentrations of the acid, perhaps also of the agar. It was found to hold true for concentrations of from $1/8$ per mille to 8 per mille of the acid and of from $1/2$ to 2 per cent. of the agar.)

2. *The concentration of the agar within the limits so far investigated has no influence on the velocity of penetration of the acid.* A 2 per cent. agar is as quickly penetrated as $^1/_2$ per cent. agar.

3. *Within certain limits*[2] *the square roots of the concentrations of the penetrating hydrochloric acid* (also of other acids (?)) *are in direct proportion to the squares of the distances penetrated by them in the same time.* To concentrations above about 4 per mille the law does not apply.

Methods by Which the Penetration Laws were Established.—It may be of some interest to give the evolution of the methods which led to the discovery of the laws above defined.

First, the fundamental fact had to be established whether the fluids penetrated to any depth, and in a reasonable time, the medium to be penetrated. For this purpose one of the reactions used for the determination of hydrochloric acid in gastric analysis was utilized, namely, the dimethyl-amido-azo-benzol. Solutions of this compound, if made acid by hydrochloric acid, assume a deep pink color; if neutral or alkaline, a canary yellow or orange[3] color. The following experiment was first made:—

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[1] 2 per mille.

[2] Of concentration, not definitely established yet.

[3] If stronger solutions of the dimethyl-amido-azo-benzol are used.

A small grain of dimethyl-amido-azo-benzol powder was dipped into a thick celloidine solution, and then fished out again with the celloidine surrounding it. This celloidine coating was allowed to dry, and the "pearl" thus formed was dipped into a weak solution of hydrochloric acid. The orange colored coating at once turned pink. A new "pearl" was then made and inserted into a glass tube 3 centimeters long and of an inner diameter of 2 millimeters. This glass tube was then put into a dish filled with melted agar (2 per cent.), allowing the latter to stream in, taking care to leave the "pearl" in position about the middle of the tube. Subsequently the agar was allowed to cool until solid, and the glass tube cut out of the solid agar mass and put into a solution of hydrochloric acid of about the concentration in which it is present in the normal gastric juice after an Ewald-Boas test meal, namely, approximately, 2 *pro mille*. After about an hour the hitherto orange yellow coating of the "pearl" turned pink. The experiment was very instructive and convincing, but its inadequacy for finer measurements was apparent. It was therefore modified as follows:—

A few grains of dimethyl-amido-azo-benzol were dissolved in thick celloidine in a mortar, giving the celloidine an orange color. A glass rod was then dipped into this mass of molasses-like consistency, and by taking it out again, a celloidine thread was drawn. The rod was kept quiet until the thread was dry, and the latter was then severed and cut into minute chips. These chips when put into hydrochloric acid solution gave the dimethyl-amido-azo-benzol reaction in a striking manner. The penetration experiment was then repeated. Instead of the "pearl," two chips were used, one being placed near the center of the agar-filled glass tube, the other about midway between it and the end. The reaction was seen to first appear in that part of the "distal" chip nearest the end of the tube. It was sharp enough to already allow, even after the second or third experiment, the formulation of the law first enumerated, namely, that the velocity of penetration is proportionate to the square of the distances penetrated. But the figures were still somewhat inaccurate. Moreover, the method had the great inconvenience that one had to sit by and watch until the reaction appeared, and was unable to do anything else in the meantime. Furthermore, the exact moment of the appearance of the reaction was hard to determine, as the transition from orange to pink was not sudden.

Another experiment was now made. Two drops of a 1 per cent. aqueous alizarine solution as used for the determination of the total acidity minus combined hydrochloric acid, in gastric analysis, were added to 10 cubic centimeters of a melted $^3/_4$ per cent. of agar solution, after the latter had been made slightly alkaline by 5 drops of a $^1/_{20}$ solution of sodium hydrate. The agar assumed now a purple color.

Glass tubes of an inner diameter of 2 millimeters of different length were then placed in the agar solution, taking care to let them fill up without air bubbles.

After the agar mass had become solid by cooling, the glass tubes were cut out of it. They were subsequently placed in weak hydrochloric acid solution, the penetration of which showed prettily by the transformation of purple into a yellow color, at the ends. The yellow columns extended further and further toward the center, until after a certain time they met, the entire agar column having become yellow. The line of demarcation between the purple and yellow zones was very sharp, allowing measurements even of $^1/_8$ millimeter by means of a scale divided into $^1/_4$ millimeters which had been fixed photographically on a glass plate and was read off with a dissection microscope.

These alizarine agar tubes made the experiment much easier and more accurate, and the conditions of the experiment were more under the control of the experimenter. It was made possible to eliminate the influence of inequalities of the temperature by placing all tubes in the incubator, maintaining an even temperature (37° C.) throughout the experiment. The tubes could be taken out after definite intervals, and the distances penetrated measured. The more minutely all precautions were observed, the more closely did the actual results agree with the results gained by calculation, thus confirming more and more strongly the law formulated.

Here is an example:—

1st distance penetrated : 9 millimeters : : Time required for penetration : 120 minutes.

2d distance penetrated : 14 millimeters : : Time required for penetration : 300 minutes.

In substituting X for the time required to penetrate the second distance (14 millimeters), and calculating it according to the formulated law, the following equation is obtained:—

Square of 1st distance.		Square of 2d distance.		Penetration Time for 1st distance.		Penetration Time for 2d distance.
9 millimeters^2	:	14 millimeters^2	: :	120 minutes	:	X

$$X = \frac{14^2 \text{ x } 120}{9^2} = \frac{196 \text{ x } 120}{81} = 290 \text{ minutes.}$$

In other words, the actual time was 300 minutes, the calculated time 290 minutes; *i.e.*, an error no greater than 3 $^1/_3$ per cent.

Another instance:—

Square of 1st distance penetrated		Square of 2d distance penetrated		Penetration time of 1st distance		Penetration time of 2d distance
5 millimeters^2	:	7 millimeters^2	: :	4 minutes	:	X

$$X = \frac{7^2 \text{ x } 40}{5^2} = \frac{49 \text{ x } 40}{25} = 39.2 \text{ minutes.}$$

The actual time was 40 minutes; therefore, error for 40 minutes was $^4/_5$ of a minute, or 2 per cent.

To multiply these examples would be useless.

Here is an instance showing the validity of the second law, namely, that the concentration[1] of the agar to be penetrated has no influence on the velocity of penetration. The figures are given for both ends of the tubes, showing how closely the distances at each end tally with each other:—

	Distance Penetrated Within 20 Minutes.		Distance Penetrated Within 40 Minutes.	
	At One End.	At the Other End.	At One End.	At the Other End.
Through 1 % agar	7¼ millimeters	7½ millimeters	10½ millimeters	10¾ millimeters
" ¾ % "	7¼ "	7¾ "	10½ "	10¾ "
" ½ % "	7¼ "	7½ "	10½ "	10¾ "

These figures speak too clearly to require any discussion. Whatever little differences are present can be easily explained by slight faultiness of technique.

Of great interest and eventual practical application is the third law: the square roots of the concentrations of the penetrating hydrochloric acid are within certain limits[2] in direct proportion to the squares of the distance penetrated. Only one example shall be adduced to show its validity.

	Distance Penetrated After 215 Minutes.	
	At One End.	At the Other End.
Fluid I=Hydrochloric acid approximately 2 *pro mille**	27½ millimeters	27½ millimeters
Fluid II=$\frac{1}{16}$ strength† of Fluid I	14 "	14 "

Equation:

Square root of Concentration of Fluid I		Square root of Concentration of Fluid II		Square of Distance Penetrated by Fluid I		Square of Distance Penetrated by Fluid II
$\sqrt{1}$	:	$\sqrt{\frac{1}{16}}$	=	X^2	:	14 millimeters^2

$$1 : \tfrac{1}{4} = X^2 : 14^2$$

$$X^2 = \frac{14^2 \times 1}{\frac{1}{4}} = \frac{196}{\frac{1}{4}} = 196 \times 4 = 784$$

$$X = \sqrt{784} = 28$$

In other words, calculated penetrated distance = 28 millimeters; real penetrated distance = 27 $^1/_2$ millimeters, or an error of $^1/_2$ against 28, or of 1.8 per cent.

This third law, governing the velocity of penetration according to concentration, may find a practical application. The distance penetrated in a given time corresponds always to a definite concentration of a given acid (eventually also of other fluids). The method could therefore be used as a substitute of titration. For this purpose, of course, a table would first have to be compiled, giving for a given time (say two hours) on one side all the distances from 0 to 50 millimeters; for instance, in ¼ millimeters, *i.e.*, ¼, ½, ¾, 1, 1 ¼, 1 ½, 1 ¾, 2, etc., millimeters; on the other side the concentrations of the given acid corresponding to these.

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[1] Within the limits so far investigated, i. e., from ½ to 2 per cent.

[2] Which were discussed then enumerating the 3 penetration laws.

* Namely, 2% hydrochloric acid, ½ cubic centimeter; distilled water, 5 cubic centimeters.

† Diluted with enough distilled water to make it $\frac{1}{16}$ the strength of Fluid I.

The details of this method cannot be given here for lack of space. Suffice it to show how some very simple experiments, if accurately conducted, may lead to the discovery of important laws which may find practical application. No doubt here the accuracy of methods has produced gratifying results.

Albumin Experiments.—Of considerable interest are some of the observations made with egg albumin. As homogeneousness of the material to be digested was a *conditio sine qua non* for accurate digestion tests, and as the white of an egg is not of even density throughout, the following procedure was adopted to fulfill the requirements of reliable tests:—

The white of the eggs was dried, pounded to a fine powder, and redissolved in distilled water in different proportions. Measurement of the volume of the unaltered —*i.e.*, original—white of the egg and weighing of the same after drying, showed that the white of the egg represents a solution of the dry albumin of about 12 per cent strength, and therefore some of the solutions were made up of this concentration. Before using this albumin for the tests it was centrifuged. This process freed the albumin of all air bubbles, separating the mass into a narrow, foamy, upper zone, a wide zone of clear fluid, and a small sediment zone about one inch long at the bottom of the tube. The middle zone of clear fluid alone was used. This "disorganized" white of egg had interesting physical qualities. On being coagulated by heat, it assumed a beautiful opalescence, being quite transparent in thin layers.

Some other interesting features were observed in this albumin. Test-tubes were filled with it, and a number of glass tubes of an inner diameter of 2 millimeters put in, removing all air bubbles by tapping. The test-tube was then stoppered, put into and left in boiling water until the albumin was coagulated. The tubes were subsequently cut out and subjected at body temperature to an artificial gastric juice composed as follows:—

Pepsin (Merck)	grs. ij.
Hydrochloric acid, 2% (this concentration was determined by titration)	½ cc.
Distilled water	5 cc.

A narrow white line[1] was soon seen to appear near either end of the tube respectively, moving gradually toward the middle of the tube, but not increasing in its width, which was about $^1/_{10}$ millimeter. It was found that this zone moved with a velocity corresponding to law No. 1. After having reached the center and amalgamated with its antipode, it disappeared.

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[1] Or, more correctly speaking, white disc.

To find out to which of the constituents of the artificial juice this phenomenon was due, or whether it was due to both, the following experiment was made:—

One tube was put into the artificial juice above described. Another tube was put into

2% hydrochloric acid	$\frac{1}{2}$ cc.
Distilled water	5 cc.

or, in other words, into the same fluid minus the pepsin.

Both tubes were put into their respective fluids at the same time, and the effect was watched. It proved that both tubes showed the line, and that it moved with exactly the same velocity in both, showing thus that this "demarcation line" was purely due to the influence of the hydrochloric acid, since I may add that distilled water alone did not produce such a line.

Here are the figures illustrating the results:—

	Experiment with the Fuid Containing the Hydrochloric Acid Plus Pepsin.		Experiment with the Fluid Containing the Hydrochloric Acid Alone.	
	At One End.	At the Other End	At One End.	At the Other End.
1. After 31 minutes,	$2\frac{5}{8}$ millimeters	$2\frac{5}{8}$ millimeters	$2\frac{4}{8}$ millimeters	$2\frac{5}{8}$ millimeters
2. " 62 "	$3\frac{3}{4}$ "	$3\frac{3}{4}$ "	$3\frac{1}{2}$ "	$3\frac{3}{4}$ "
3. " 124 "	$5\frac{3}{8}$ "	$5\frac{3}{8}$ "	$5\frac{1}{8}$ "	$5\frac{3}{8}$ "

In testing here again the validity of the first penetration law by calculating the penetration time for 3, from the penetration distance of 3 ($5\frac{3}{8}$ millimeters), from the penetration time of 2 (62 minutes), and from the penetration distance ($3\frac{3}{4}$ millimeters) of 2, the following result is obtained:—

Square of 2d distance penetrated.		Square of 3d distance penetrated.		Penetration time for 2d distance		Penetration time for 3d distance
$3\frac{3}{4}$ millimeters ^{2}	:	$5\frac{3}{8}$ millimeters ^{2}	::	62 minutes	:	X

$$X = \frac{5\frac{3}{8}^2 \times 62}{3\frac{3}{4}^2} = \frac{28.89 \times 62}{14.06} = \frac{1791.18}{14.06} = 127 \text{ minutes.}$$

Instead of 124 minutes actual time.

Error = 3 : 127, or 2.28 per cent.

Food for interesting speculation is given by the results of the second penetration law if the penetration velocities through agar and albumin are compared. While density of one and the same homogeneous medium has no influence on the velocity of penetration, the difference in the *nature* of the homogeneous medium plays a decided rôle. In *127* minutes coagulated albumin had been penetrated by a hydrochloric acid solution of given strength (approximately 2 *pro mille*) for a distance of 5 ⅜ millimeters only. In *120* minutes (that is, in slightly less time) agar had been penetrated by hydrochloric acid of exactly the same strength for a distance of 17 ½ millimeters; *i.e.*, slightly more than three times as great as the albumin.

What is it, then, that causes this difference between two media, if the density of one and the same medium plays no rôle? Is it a matter of chemical affinity, or of the size of the molecule, or what?

Certainly this is a subject of interest, even though reaching out of the field of medicine. It must be admitted that this second law still requires further verification as to the generality of its application, and therefore conclusions must be made with some caution.

Let me briefly mention another fact brought out by the tests with the "disorganized" egg albumin; namely, that such albumin is digested, not only by pepsin plus hydrochloric acid, but even by hydrochloric acid alone in concentrations in which the latter is found in gastric contents after test meals—*i.e.*, approximately 2 *pro mille.*

We see thus that accuracy of method has within a comparatively short space of time[1] led to the following results:—

1. The apparent[2] discovery of three physical laws.

2. The discovery of the principle for a new method of quantitative acid determination.

While the facts elucidated have as yet no direct bearing to the subject which it was intended to investigate—namely, the gastric function of the epileptic—they seem sufficiently important in themselves, and moreover, they give a very important preparatory basis for such investigations, without which the latter could not be carried out with any degree of reliance.

B. ONUF (ONUFROWICZ).*

THE INTERNAL USE OF THYROID EXTRACT TO INCREASE THE COAGULABILITY OF THE BLOOD.

THE use of thyroid extract internally to increase the coagulability of the blood and thus to diminish the dangers which all surgeons fear in operating upon "bleeders" seems well worthy of an extended trial, either in cases of true hæmophilia or where the coagulating time has been increased by disease. The pathology of this condition is as yet so undecided, and so many causes have been assigned for its occurrence, that until this matter is more systematically investigated little can be said concerning it. The statement has been made that the coagulating time of the blood in true hæmophilics is not materially increased, but nowhere have I been able to find any account of accurate blood-tests to determine this point. I hope that it may soon receive the attention which its importance deserves.

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[1] About three months.

[2] I have not studied the text-books of physics yet to positively state that these laws are yet unknown.

My own experience of the past few months in the administration of thyroid extract has been confined to three cases, a short account of which I give here, but I purpose in the near future to give elsewhere a more detailed and elaborate statement.

At the suggestion of Dr. C. E. de M. Sajous, whom I consulted, 3 grains of the dried thyroid extract were given three times a day to a woman of 38 years. She was a bleeder who required a nephropexy for an extremely movable kidney. The symptoms produced by the kidney were most pronounced, with crises in which there was suppression of urine with hydronephrosis accompanied by evidences of uræmic intoxication. The urine at these times was loaded with blood, and there were evidences of intense congestion. This condition was so serious that an operation to fix the kidney in place was urgently demanded, as no bandage or pad was of any value. For many years she had bled profusely from the simplest wound. A slight operation performed upon her nose had caused such furious and persistent hæmorrhage that her physician was then alarmed for her life. About two years ago she had bled from nearly all of her mucous membranes and a series of purpuric spots appeared over her body. As is usual in these cases, her menstrual flow was not abnormal. When she came under my care a test of the blood showed hæmoglobin 70 per cent., erythrocytes 3,350,000, leucocytes 5800, while the coagulation time was eleven and one-half minutes—the normal being from three to five—and the needle-prick of the finger bled for hours and was only controlled by pressure. Under careful and systematic treatment by iron, malt, massage, and feeding, and the use of thyroid extract, the coagulating time of the blood diminished from eleven and one-half minutes to three minutes and four seconds. Operation was about to be undertaken, when, for causes other than those connected with her physical condition, it was necessary for a postponement. Six weeks later thyroid extract was given for four days, and the coagulating time was now found to be two minutes and six seconds. The next day she was given ether and an incision made in the right loin, and the kidney fixed in place by means of sutures passed through dense adhesions which were found to be attached to the kidney, the result of former inflammation, but no sutures were passed through the kidney structure. To the astonishment of all present the wound was remarkably dry, there being much less oozing than is usually seen in such operations. The after-course of the wound was extremely satisfactory, as she made a prompt and normal convalescence and there was no bleeding or oozing from the wound whatever.

The second case was a boy 18 years old, a bleeder of a family of bleeders, who was operated upon for necrosis of the fibula following an osteomyelitis, and until after the operation I had not known of this family tendency. The wound bled for weeks, the dressing being saturated continuously, and it did not do well, as it showed no disposition to heal and the granulations were large, intensely congested, and bled on the slightest touch. He lost flesh and appetite, his color was poor, and he became weak and mentally dull and discouraged. Various forms of tonics were tried without any improvement, until finally he was given thyroid extract. Almost immediately there was a marked change for the better in his condition, but particularly was this seen in the wound. After he had been taking the thyroid for one week all bleeding from the granulations in the wound had ceased, and it began to heal rapidly, although no change was made in the materials used in the dressing, nor was any other form of internal medicine employed. It is to be regretted that there was no test of the coagulation time of the blood made in this case.

The third case was that of a woman who had been a bleeder all her life, and who, eight years before, had bled from the gum forty-eight hours after a tooth had been pulled. Several slight cuts had bled most profusely, and she was subjected to violent expistaxis at frequent intervals. She was given thyroid extract for two days, and then two teeth were extracted. The dentist found considerable difficulty in this, as the teeth broke down under manipulations and the gum was badly lacerated. In spite of the great amount of trauma there was less bleeding than could have been expected in an ordinary individual.

These three cases were all unmistakable bleeders, and the remarkable results following the use of thyroid extract can only be attributed to its influence. In the first and third instances hæmorrhage would have been, of a certainty, a dangerous complication, and in the second the remarkable improvement in the appearance of the wound and the sudden cessation of the oozing could only be due to its action. How does thyroid extract act to accomplish these remarkable results?

Dr. Sajous considers that by administering thyroid extract we stimulate the anterior pituitary body, which in turn excites the adrenals to greater activity, thus augmenting the proportion of fibrin ferment in the blood and consequently its coagulating power. His researches go to show that the secretion of the adrenals on reaching the lungs becomes converted into an oxidizing agent, or, as he expresses it, the albuminous constituent of the hæmoglobin molecule. This substance he finds to be identical with the "oxidases" of the French chemists, and with *fibrin ferment* in its reactions. Where the functional activity of the adrenals is enhanced the volume of fibrin ferment in the blood (which ferment by uniting with fibrinogen endows the latter with its coagulating property) is increased. He contends that the governing center of the adrenal is the anterior lobe of the pituitary body, and this organ is kept active by the internal secretion of the thyroid.

If this be true it would explain the action of thyroid extract in diminishing hæmorrhage in these hæmophilics, and if the practical results obtained continue in other cases to be as satisfactory as in the three instances which I have just related, its value to the surgeon will prove to be tremendous. This explanation of Dr. Sajous is the only adequate one that I have yet seen concerning it.

There are a number of reported cases in which thyroid extract has been used in hæmophilics with prompt and satisfactory results, and it is well worthy of an exhaustive trial in all of such cases, and particularly as a preparatory method of treatment whenever surgical operation must be undertaken upon these unfortunate persons.

This preliminary statement is made in the hope that a much wider use may be made of this valuable remedy.

William J. Taylor.*

SOME FACTS ABOUT ARTIFICIAL DRUMHEADS AND OTHER AIDS OF HEARING.

Much has been written about the perversion of medical practice in the hands of opticians, who undertake to prescribe not only for refraction-defects, but for many other ocular affections; but too little has been said of a kindred subject—the vending of artificial drumheads and such apparatus, with the booming of which the advertising pages of medical and lay magazines are full. Much more widespread than the feeling that anybody who can repair jewelry can fit lenses precisely to the eyes, is an impression among medical and laymen alike that there is nothing to be done for deafness except employ some apparatus or other aid. Conspicuous and annoying as trumpets are, there is a great search for invisible yet potent helps; and the hundreds of thousands spent in advertising such devices give strong testimony to the far greater sums that must constantly pass into the hands of those who offer new patented helps. Were the advertisements as approximately truthful as those of the circus-poster there would be less reason to condemn them; but their claims are so flagrant and beyond all possibility of performance and their methods so often highly reprehensible that a word on the subject seems decidedly called for.

Some years since the proprietors of an alleged incomparable restorer of hearing secured an advertisement page in the University Medical Magazine and have not since ceased to quote under the caption "what the official organ of the University Medical Department has to say in praise of the ——— artificial drumhead," as though the words were something else than their own paid advertisement. Boomed in such consciousless fashion it is small wonder that the many having defects of hearing (Tröltsch showed us fifty years ago that one adult in three is deaf in one or both ears) should turn toward these wonder-compelling appliances, "guaranteed to be original and valuable by the granting of letters patent by the United States," and to waste their earnings upon one after another of these devices which frequently promise not merely aid, but cure and restoration of hearing. For the great majority of cases such devices are utterly useless and generally far from harmless. Foreign bodies in the ear are rarely dangerous if let alone; but few of these artificial drumheads are so unirritating that they can long remain present without real detriment to ears which can ill afford any further impairment. For the suppurating cases they can easily become serious obstacles to proper cleansing and may give rise to dangerous or fatal extension of the disease.

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This is an electric age; so many of the devices claim marvelous aid from magnetism or electricity either for the cure or improvement of hearing. A tiny coil of magnetized wire or other form of magnet is stated to be capable of doing more for the magnification of sounds than the most practical and elaborate microphone has as yet secured. It is said that the inventor of the microphone, almost hopelessly deaf, has not been able to devise an instrument which will aid his own hearing; and expert study from the medical side has shown that the microphone is valueless and offers practically no promise in aid of the deaf. Yet enormous claims are put forth by rival microphone constructors—neither of whom can sufficiently blackguard the other—as to their ability to aid the deaf and give hearing to the deaf-mute. The public prints are used to laud the brilliant results achieved and to catalogue the medical men who, seeking to investigate the subject, are at once set forth as ardent advocates of the apparatus. Such appliances are able to help those whose defect is only in regard to low tones, but who hear through the telephone the voice transposed to a higher register, when they are unable to hear it unaided. Whether any of them are better than the simplest magnetic telephone is doubtful. Certainly the more electric current that is used the louder, more disturbing, and *less articulate* and clear is the sound heard through such instruments.

Any device which brings the voice audibly to the impaired ear can be of some benefit and possibly can work a slow improvement; but it is very different with the measures of electric vibration employed to stimulate the nerve or to benumb its sensitiveness to harassing subjective sounds. The success such apparatus sometimes achieves in exhausting the nerve-force and so making the ear insensitive to tinnitus should be sufficient warning as to the damage which it can do to any useful remnant of hearing. Certainly they rarely fail to injure rather than help those who seek the benefit which they are assured can be expected from them.

An "International Specialist" writes from the West to a patient of mine: "Your answers to the questions in my diagnosis-blank are so clear and complete that I am certain you can be cured by my treatment. Never before in the history of the world's medical science could you have been cured. Deafness was never cured by any treatment within my knowledge until I perfected my Electro-Vibratory treatment less than three years ago. I offer you the only rational, complete, and genuine cure which, in the crucible of trial, stands the test of curing completely and permanently;" and continues with two thousand words of laudation of this apparatus, which is simply a vibrator of variable rapidity with tubes conveying the sounds of the current-breaker to the ears. Two minutes of such treatment and two of application of the current itself through tiny electrodes inserted in the ears, is the infallible method offered, irrespective of the fact that the current is faradic not galvanic, and with no account taken of the poles of the battery, or whether cathode-opening or anode closure may not greatly increase instead of lessen any tinnitus present. The device is electric—that is all the patient knows, and apparently all that the inventor knows or cares except as to its price and the payment, as to which his directions are much more explicit.

It is probably hopeless to try to stem the tide of unfortunates which sets toward such charlatans. Whatever the possibilities of their cases under rational treatment, there are many who prefer to try irregular practitioners, and only a few who will ask medical advice as to these aids which are offered under such glowing encomiums. But it does seem right that the profession should be somewhat aroused not only as to the ethics of the case, but warned of the serious detriment to their friends and patients which lurks in many of these "patented" devices. There is no more sense or propriety in recommending patients to try these "patent eardrums" than there would be in sending them for other ailments to a non-medical patent-medicine man whose advertisement assures them that "there is hope."

B. ALEX RANDALL.*

HYPOTHESIS ON THE ETIOLOGY OF SCOLIOSIS IN CHILDREN.

OUR knowledge of the causes conditioning lateral curvature still leaves much to be desired. Many etiologic factors are recognized which on inspection prove to be, in essence, contributory rather than fundamental. A study of a relatively new principle of applied physiology, utilized in both diagnosis and treatment, has suggested to me that herein we may find an explanation, capable of furnishing the key to a large proportion at least, of those instances of lateral curvature arising in the very young. The only way by which this postulate can be verified or set aside is by a broad coöperation among clinicians, especially family physicians, who alone are able to note the causes and effects, hereinafter outlined, in their incipiency. Orthopedists can do much if they will take the trouble to amplify their case histories by searching into the data of earlier illnesses, noting the time of occurrence, the extent of involvement, what lesions persist, and to what degree they depress vitality. Already my own observations lead me to note many remarkable coincidences. How far these factors will reach, to what degree they may impress a skeptic, time and the aggregation of further statistics alone can determine. If, however, my hypothesis be not entirely correct, at least I feel confident that it must be along some such line of research that we shall find the earliest prephenomena and omens of this disability. I particularly request that the suggestion may receive such attention as at least the gravity of the subject undoubtedly warrants, and that observers will record frankly the striking coincidences which must come to their attention and which, to my mind, closely resemble causes and effects. I may be permitted to make some quotations from a paper by myself on "Diagnosis in Diseases of Children."[1] Few or no pathologic processes can exist in the body without manifesting themselves by disturbances in the nervous mechanisms of the area or parts involved. These are brought about by changes in the circulation of the central nervous system. A large part, by far the largest part, of the nervous mechanisms of the body are located in the spinal cord. Disturbances of the circulation in the spinal cord have been shown to be expressed externally by alterations in the conditions of those tissues supplied by the posterior primary divisions of the spinal nerves, as well as in the peripheral parts diseased.

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There is found to be a correlationship between the blood supply of organs and their functional processes, and this involves the status of the blood supply in those segments of the cord in which the cell bodies reside and from which the viscera, etc., are innervated.

Explanations of viscero-motor and other activities must be sought through a practical knowledge of vasomotor mechanisms and functions of the spinal segments through which the viscus is controlled.

Effects upon the blood supply of all parts of the body can be induced by stimulating the centers in the spinal cord more directly and forcefully, and through them exerted upon the sympathetic centers and ganglia, than from measures directed immediately to the organs disturbed.[2] Conversely, disturbances in the various organs, systems, and tissues, being due to circulatory changes induced reflexly through the central nervous system, the major portion of the nervous mechanisms being located in the spinal cord, disturbance of the circulation in the cord is expressed by alterations in the structures of those parts supplied by the posterior primary divisions of the spinal nerves, as well as of the parts affected. During the continuance of diseased states, or even lesser disturbances, pronounced altera-

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[1] Published consentaneously in the British Journal of Children's Diseases, January 1, 1905, and the New York Medical News, December 17, 1904.

[2] See Lander Brunton's explanation of the effects of a mustard plaster. Lectures on Pharmacology, etc.

tions are to be observed in those tissues immediately innervated by fibers arising in the spinal segments whose integrity is thus affected by derangements in function of organs and areas dependent upon those segments. In brief there is both a sensory and nutritive reaction exhibited upon the erector spinæ muscles, and allied structures, ligaments, etc., caused by the disturbed circulatory equilibrium in areas depending for control upon certain groups of segments of the cord.

There is, as has been said, a compensatory relationship existing between, first, the surface muscles and ligaments, skin, etc., supplied by the posterior primary divisions of the spinal nerves; and second, the blood vessels of the cord and the deep structures, organs, and remoter parts, innervated by fibers whose cell bodies arise in the corresponding region of the cord.

Any agent or irritant, mechanical, electric, infective, toxic, or other, which causes vascular constriction in the tissues of the back contiguous to the spinal column will produce, conversely, dilation of the vessels in the cord and of the organs and beyond parts, in the line of innervation.

I have been scrutinizing the conditions of the back with these possibilities in view for three years at my clinic at the Children's Hospital and in my service at the Children's Hospital at the Philadelphia Hospital, and am increasingly impressed with the many significant conditions observed. After long continued disturbances in the lungs there is almost always a marked derangement in the alignment of the upper dorsal vertebræ. Where there have been protracted disorders of the digestive organs there are to be noted similar disorganizations of the vertebræ of the lower dorsal and upper lumbar regions. To continue quoting from the aforesaid paper:—

On inspecting the back of one who is and always has been perfectly sound there will be seen, if certain attitudes are assumed to bring them into prominence, the spines of the vertebræ in normal alignment, distance apart, and degree of posterior projection. If there has been a history of long continued or recurrent disturbances of the internal organs, these are frequently evidenced by alterations in the tonus of the blood-vessels of those muscles and other tissues innervated by, or lying adjacent to, the governing segments of the cord from which the organs at fault are reflexly controlled through their vasomotor connections. The change of form is an atrophy of some, infiltration and thickening of others, and, if long continued, asymmetries of the vertebræ, the spines apparently pointing in different directions. If the lesions have become chronic, the spines are then usually found separated owing to relaxation of the posterior ligaments, until between two or more appear, marked depressions or several are depressed below the normal line of projection. These disarrangements of the vertebræ are more apparent than real, the asymmetries being due to loss of tone and relaxation in the supporting ligaments and these disappear under appropriate treatment.

If these phenomena are observable, they undoubtedly seem to be constant in transitory states, producing these demonstrable alterations in the morphology of the structures of the vertebral column and adjacent tissues, it is fair to assume that a persistence of these may result in permanent lesions and deformities.

If further studies corroborate the postulate and we find that a large proportion of these disabilities end in lateral curvatures, it is obvious that we have here a means of correcting these deformities in their incipience.

The means for doing this are two-fold: first, the prompt, thorough, and consistent correction of the visceral derangements, pursuing treatment till the desired finality is reached, and, second, by manipulations of the structures exhibiting the morphologic and sensory alterations by measures which I will set forth on a later occasion.

Already I have had under constant treatment six or seven cases of distinct lateral curves, seemingly due to definite visceral disorders, which have subsided.

In some of these I have had consultations with orthopedic surgeons to verify my findings and results.

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Cyclopædia of Current Literature.

ACETANILID POISONING.

The writer reports a considerable number of cases of chronic acetanilid poisoning. Special attention is given to the condition of the blood and of the urine. The blood picture is quite characteristic. The hæmoglobin cannot be estimated, on account of the presence of methæmoglobin, which gives the characteristic chocolate color to the blood. The red cells are usually reduced in number and are more or less deformed. There is usually leucocytosis.

In cases of severe chronic poisoning by acetanilid and related coal-tar products, the symptoms are usually very similar as concerns progressive mental and physical debility, which later often reaches a high grade. There is cardiac weakness, with more or less pronounced cyanosis. Apart from the usual chocolate hue of the blood so noticeable on puncture, the blood-picture, were it not for an almost invariably present leucocytosis, would suggest pernicious anæmia. D. D. Stewart (Journal of the American Medical Association, June 3, 1905).

ALCOHOL, ACTION OF, UPON THE CIRCULATION.

From elaborate animal experiments, the writers conclude that alcohol does not seriously affect normal animal blood-pressure, elevates the blood-pressure after vasomotor paralysis from section of the cervical cord, increases the rate of the blood flow, and directly stimulates the heart. Therefore, the general action upon the circulation of the moderate dose of alcohol is cardiac stimulation with vascular dilatation, due to depression of the vasomotor centers. Two experiments on human beings with the arm plethysmograph were corroborative of the results with animals. In general, the studies indicate that the increased cerebral excitement and activity following ingestion of alcohol are not due to direct action of the drug upon the brain, but to the increased amount of blood in that organ. H. C. Wood and D. M. Hoyt (University of Pennsylvania Medical Bulletin, May, 1905).

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ANGIOSCLEROSIS OF THE EXTREMITIES, INTERMITTENT CLAUDICATION DUE TO.

Angiosclerosis of the extremities in its gravest form, uncomplicated by a vasomotor neurosis, leads to spontaneous gangrene. If the angiosclerosis occurs in combination with a vasomotor instability and a tendency to vasomotor spasm, the syndrome of intermittent claudication results. This is characterized by the development of sensory (pains and paræsthesia), and motor (weakness and rigidity) manifestations during functional activity with a rapid and permanent restoration to the normal during rest. The syndrome, however, has a wider and more general application to the whole circulatory mechanism and has been observed in relation to various organs of the body (heart, intestines, brain, kidney, and eyes). J. Ramsay Hunt (Medical Record, May 27, 1905).

APPENDICITIS, CHANGES OF VIEW ON.

Although formerly the writer used to forbid morphine altogether, his views on the subject have changed, and he now gives it cautiously in cases in which there is great restlessness. Both gauze packing and iodoform gauze have been abandoned altogether, as well as the use of buried sutures of silkworm gut. A standard length of one and one-half inches for the incision has been adopted for nearly all instances, including cases of abscesses and peritonitis, and it has been found safer to deal with adhesions by touch than by sight. The time limit has also been greatly reduced, and now it is common to have the time from the first incision to the last suture occupy not more than seven or eight minutes. All patients operated on, even if moribund, a preliminary infusion of salt solution being given, adhesions are freely separated if necessary, but not otherwise, and the idea of flushing out the abdomen has been dropped. After eliminating the features which seemed to have a special death rate of their own, viz., gauze packing, iodoform gauze, long incisions, and the expenditure of time in unnecessary detail of work, 100 consecutive operations were reported with a 2 per cent. death rate.

The author does not favor the removal of the normal appendix in the course of other operative work, and he now uses a cigarette drain in all cases in which pus and septic *débris* have been left in the peritoneal cavity. The dictum of operating as soon as the diagnosis is made holds good, with certain exceptions, but it is still a question what to do with patients who are convalescing from the attack. In interval cases it now seems best to operate only when, on palpation, the appendix is found to be the definite seat of chronic infection or of adhesions which cause symptoms. R. T. Morris (Medical Record, May 27, 1905).

APPENDICITIS IN CHILDREN.

Appendicitis is not an uncommon disease in children. It does not at first tend to be of a more serious type than in adults, but the slighter cases are often difficult to diagnose, and are therefore apt to be overlooked. The author would urge a closer attention to recurrent attacks of colic, and points out the frequency with which diarrhœa and bladder irritation are associated with appendix inflammation in childhood. When several slight attacks of appendicitis have occurred, the removal of the appendix is the best and safest treatment. Where localized peritonitis is present, operation should be delayed until the quiescent period is reached, but pus formation must always be suspected and carefully watched for during the waiting period. Should abscess formation take place, immediate operation is demanded, but undue risks should not be run in attempting the removal of a firmly adherent appendix under such circumstances. The administration of purgatives and opium is not without risk, and is, the writer considers, best avoided. R. C. Dun (Glasgow Medical Journal, June, 1905).

ASTHMA, THE RELATION OF ETHMOIDAL INFLAMMATION TO.

The author states that asthma is a name given to paroxysmal difficult breathing, and the disease is an inflammation of the mucous membrane of the ethmoidal cells. An irritation of branches of the trigeminus or olfactory nerves causes an altered activity in the medulla, that is to say, in the center of respiration. The result in the bronchial tubes is a vasomotor disturbance or contraction of muscles, or both. Chronic bronchitis, or emphysema, or a dilated right side of the heart, is not asthma. They are sequels to asthma of severity and long standing. Other varied factors are the contributory causes of asthma. Errors of nutrition, errors of diet, gout, obesity, lymphatism, impure air, and poor circulation are such causes. To these may be added direct irritants to the nasal mucous membrane, such as various pollens, emanations from animals, dust, smoke, and many others in the cases of the sufferers from periodic asthma. H. Coggeshall (Medical Record, June 3, 1905).

BATHS AND ELECTRICITY, EFFECTS OF, ON METABOLISM, BLOOD AND BLOOD-PRESSURE.

The physiologic action of the high-frequency current in its general application tends to confirm its use in cases of nutritional disorders, such as chronic gout, chronic rheumatism, and obesity, by reason of the changes effected in blood-pressure and the stimulus given to metabolism, as shown by the plus heat production, the plus excretion of urea, of uric acid, and of CO_2 and the loss of weight. The rise produced in the hæmoglobin value of the corpuscle points to its use in the above cases when anæmia is a prominent symptom, and also as a useful adjunct in cases of simple anæmia and chlorosis. The distinct contraction of unstriped muscle fiber excited by the effleuve indicates a trial of the method in cases of atony of the hollow viscera, and may also account for the striking results sometimes observed in the shrinking and disappearance of hæmorrhoids after repeated applications. The evidence of its real value in cases of diabetes and phthisis does not appear to rest on a sufficiently large number of cases to carry conviction as to its superiority over other modes of treatment. With regard to its action in local affections of the nerves and skin, results offer no evidence for or against.

Electric immersion baths are used largely to induce restoration of contractile power in cases of muscular weakness or atrophy resulting from nerve lesions or essential muscular dystrophy, and in cases of neurasthenia and the latent form of hysteria. They are also useful as a general tonic measure in cases presenting no definite disease, but suffering from slackness and want of tone. The results obtained on metabolism are not sufficiently striking to justify the frequent employment of these baths in cases of chronic gout unless the slight increase in elimination of urea and uric acid which followed the constant current may be considered an indication in this direction.

The striking results obtained on the hæmoglobin value of the blood with the light and ozone bath point to its use in cases requiring sweating baths, in which anæmia is present, and further tend to show that the daily breathing, for a stated time, of air highly charged with ozone may be a useful auxiliary measure in the treatment of intractable cases of chlorosis and secondary anæmia.

Peat baths are largely used in cases of chronic pelvic disorder of an inflammatory nature. Their action, which resembles that of a widespread poultice, materially aids in the absorption of effused products. They are also used for cases of chronic intractable rheumatism and gout and in local manifestations of these disorders, such as lumbago or sciatica. The results obtained are not conclusive enough to indicate strongly in which direction they are likely to be of service.

Thermal sulphur baths are largely used at Harrowgate in the treatment of gout, rheumatism, and functional derangements of the liver, and also for their local action on the skin in cases of skin diseases. In the former, as well as in the latter, experience shows that they are of undoubted value, though their mode of action is by no means clear. Apart from their marked effect on blood-pressure, which has been previously shown, this investigation proved nothing conclusive as to their influence on metabolism. Bain and Frankling (Lancet, April 29, 1905).

BONE CAVITIES, TREATMENT OF.

The author has had some very favorable results with von Mosetig's bone plug. Four of his recent cases are reported in detail. Briefly the method consists in completely filling bone cavities, resulting from operation, with a preparation of wax and iodoform. For success to be attained the following conditions must be fulfilled: The cavity must be sterile; it must be dry; all dead and diseased bone must be removed. The material for plugging consists of 60 parts iodoform, 40 parts spermaceti, and 40 parts of oleum sesami. These ingredients are slowly heated to 100° C., and when allowed to cool form a soft solid which remains solid at the temperature of the body. For use it is heated to 50° C., being constantly stirred to keep the iodoform evenly distributed. At this temperature it can be poured into the cavity, where it immediately solidifies. This material does not act as a foreign body, nor does it act as a culture medium. It possesses the inhibitory and medicinal properties of iodoform without causing iodoform intoxication. Its physical properties are such that it is gradually absorbed and replaced by granulations and finally by new bone.

J. E. Moore (Journal of the American Medical Association, May 20, 1905).

BRONCHIAL ASTHMA, VASOMOTOR ORIGIN OF.

The writer supports the theory of the vasomotor origin of bronchial asthma, citing an interesting case in which a woman had suffered for years from bronchial asthma, and in which a distinct connection between the attacks of dyspnœa and other vasomotor phenomena could be traced. Thus this patient was subject to hyperidrosis, to urticaria, to a sense of prickling in the limbs, œdema, ptyalism, swelling of the tongue, and diarrhœa. These signs appeared usually in the intervals between the attacks and disappeared when the attacks set in. Another noteworthy feature in this case was the relation of the paroxysms of bronchial asthma to menstruation. When menstruation set in, the paroxysm ceased. On the other hand, in the presence of severe and repeated paroxysms which came on from time to time, menstruation became irregular. The treatment consisted in the use of tepid general sulphur baths, and local irritation about the dorsal region of the spine, to stimulate the vasomoter centers. Tonics were also administered. F. Galdi (Gazetta degli Ospedalie e delle Cliniche, March 5, 1905; New York Medical Journal and Philadelphia Medical Journal, May 13, 1905).

BRONCHO-PNEUMONIA IN CHILDREN, TREATMENT OF.

Report of 10 cases of broncho-pneumonia in children three months to 11 years of age in which defervescence was realized in one to four days. The author ascribes this favorable result to his method of giving the little patients from one to seven "half-baths" of four to seven minutes each, the water at a temperature of from 30° to 28° C., gradually reduced to 26° or 24° C. (86° to 82° F., reduced to 78° or 75° F.). The room must be moderately warm, and the child must be placed in a bath-tub with only enough water in it to cover the body, leaving the breast almost uncovered with water. The child is rubbed during the bath, and after two minutes cool water is added to bring the water down to the desired temperature. The child is then rubbed dry with warm towels and put back to bed. These half-baths are given night and morning; a little milk is given to the child before and after the bath. The diet should be milk, diluted or not, and cold spring water should be sipped frequently. The author's experience has been that these baths twice a day raise the blood-pressure, strengthen the heart, promote expectoration, and soothe the nerves, etc., much better than any other measures. T. Zangger (Correspondenz-Blatt für Schweizer Aerzte, Bd. xxxv, No. 1; Journal of the American Medical Association, June 3, 1905).

BURNS OF THE THIRD DEGREE.

All extensive burns should be treated, if possible, by the continuous warm bath. This method is very restful to the patient, relieves the existing shock, and attention can be given to the burned area without handling the patient or removing dressings, both of which operations are always attended by more or less shock and no little pain.

When the sloughs have begun to separate, some form of more active continuous antiseptic irrigation, preferably aluminum acetate, is indicated. (The aluminum acetate could not be obtained for the case reported, and corrosive sublimate was used instead.)

While food is essential, it should be strictly liquid, and given in small but repeated doses. For the accumulation of gas in the intestines, which almost invariably occurs when the abdomen is involved, turpentine, in small doses, is strongly recommended, though the kidneys may be slightly diseased. The rectal tube is, of course, a useful adjunct.

For the shock, which is always present in extensive burns, besides the well-known methods for combating it, the intravenous infusion of normal salt solution will give oftentimes miraculous results. Extensive burns, of even over one-half the body surface, should not be despaired of, as the writer is of the opinion that heretofore the profession has been too prone to regard as hopeless a burn involving extensive areas. As a result of this, some of the methods and technique which, at least, should be given a fair trial when it is possible to do so, are liable to be neglected, or regarded as useless. A. M. Fauntleroy (American Journal of the Medical Sciences, June, 1905).

CONSTIPATION AS A CAUSE OF INTRA-UTERINE INFECTION.

The author conducted a series of experiments in animals in order to determine the effect of coprostasis on uterine infection. Complete obstruction was produced by suturing the anus. Both pregnant and non-pregnant guinea-pigs were used. Almost without exception colon bacilli were found in the uterus, amniotic fluid and peritoneal cavity after death. Although these experiments do not furnish conclusive evidence with regard to the effects of obstinate constipation in the human female, the writer believes that they point a moral as to the importance of careful regulation of the bowels in the non-gravid as well as in pregnant women. Capaldi (Arch. di Ost. e Gin.; Zentralblatt für Gynäkologie, No. 8, 1905).

COPPER, BACTERICIDAL ACTION OF, ON ORGANISMS IN WATER.

Dilute solutions of copper salts have a marked destructive action on many bacteria. Of these salts the sulphate is most active. This is probably due to the fact that it undergoes electrolytic dissociation more readily than the others. The amount of sulphate to be used in the water should be from 1 part in 250,000 to 1 part in 100,000, depending on the character of the water.

Colloidal copper will quickly destroy certain bacteria; should copper vessels or plates be used to destroy bacteria in water they must be kept highly polished or the bactericidal properties will be greatly reduced. The author has been unable to find evidence of copper, ingested in small quantities for long periods, having a detrimental action on the health of an individual. N. Gildersleeve (American Journal Medical Sciences, May, 1905).

DIGESTIVE DISTURBANCES IN EARLY INFANCY.

From his own experience and that of others, the writer states that more than 26 per cent. of the infants who succumb to gastro-intestinal disturbances are less than a month old. The infection must have taken place during the first days of life. If infection during the first week can be prevented, the child then acquires strength and produces antibodies which, to a certain extent, protect it against infection later. It is not the lack of proper food so much as the lack of proper care otherwise that is responsible for this high morbidity during the first week. Almost all the infants in his charge at the Heidelberg Maternity showed the staphylococcus albus in their stools. This infection remained latent or induced dyspepsia accordingly as the infants were kept clean and warm or were allowed to become chilled. The attendants are required to wash their hands each time after changing the napkin of an infant. Heubner even goes so far as to have different attendants take care of the upper and of the lower parts of the body of the infant. The cotton used in powdering is thrown away and a fresh piece taken for each child. The infants suck through a nipple guard to prevent infection from this source, and the mothers are taught to keep the nipple clean and not to touch the rubber guard.

The low temperature of the newborn is combated by wrapping in warm woolen blankets and by giving the first bath at a temperature of 40° C. (104° F.), leaving the child in the water for fifteen minutes, and keeping it warm afterward with hot-water bottles in the crib. To avoid exposing the infant, the umbilical cord is not inspected until the fourth day after it is dressed. Cleanliness and warmth are the principal aids in tiding the infant past its defenseless stage and in preventing the latent microbism from developing gastro-intestinal disturbances. F. Kermauner (Archiv für Gynäkologie, Bd. lxxv, Nu. 2; Journal of the American Medical Association, June 17, 1905).

ELECTRIC SHOCKS.

The injuries received by telephone operators in the course of their work has not received sufficient attention. It sometimes happens that shocks of greater or less severity are received and the author gives the histories of several such cases in which the consequences were rather serious. According to the nature of the accident and the powers of resistance of the sufferer, the first symptoms comprise fainting, clonic convulsions, attacks of weeping, swelling of the extremities, especially on the injured side, and disorders of sensation. Later on, severe headaches and dizziness appear, as well as erratic neuralgic disturbances, which are most prominent during cold or stormy weather. Cramp-like abdominal pain, hæmiplegia, vasomotor paresis, and other evidences of nervous exhaustion such as the loss of power of mental concentration, are also observed. One important symptom which was noticed in all cases was cardiac weakness, evidenced by irregularity of the pulse, precordial pain, palpitation, etc., and the author makes this group of manifestations responsible for much of the great weakness and prostration complained of. The prognosis is bad as regards permanent resumption of telephonic work, for although great improvement may be obtained, the shock to the nervous system is too great to permit of complete restoration.

The treatment consists mainly in suggestion, static electricity, massage, and baths. Faradic electricity and bromides should be avoided. The author recommends greater care in selecting young women for these positions, and the family history should be carefuly inquired into. Applicants in whose families mental disorders or nervous diseases have occurred should be excluded, and those whose parents have died of a severe chronic malady should be tested with especial care as regards the nervous and vascular systems. Wallbaum (Deutsche Medicinische Wochenschrift, May 4, 1905; Medical Record, May 27, 1905).

EXOPHTHALMIC GOITER REDUCED BY RADIUM.

The writer reports the first case in which radium has been applied. On account of the different effect of Roentgen rays on ulcerated and unbroken skin surfaces, it occurred to him that while radium outside of goiter would be ineffective, inside it might have striking results. Under cocaine anæsthesia he made a small media incision, dissecting down to the isthmus of the thyroid. Into this he thrust a small bistoury, making a deep enough incision to bury a sterilized tube of radium at right angles to the skin and an inch deep. It was held in place by dressings and straps, the patient keeping her head fairly quiet for twenty-four hours. The glass tube was $^1/_8$ inch in diameter, and contained 10 centigrams of Curie radium. At first the gland seemed a little more swollen. In four months it was only a sixth of its former bulk. All unpleasant symptoms, including a sense of suffocation, severe headaches, inability for exertion, tremor, etc., disappeared. Some tachycardia remained. R. Abbe (Archives of the Roentgen Rays, March, 1905).

FATTY DEGENERATION, NATURE OF.

Ever since the days of Virchow it has been customary to look upon fatty degeneration of the kidney as a very common lesion which accompanies almost every change in the renal tissues. Recently, however, attention has been drawn to the fact that the chemical examination of kidneys which were pronounced fatty to a marked degree by microscopic examination frequently did not show an excess but rather a deficiency of fat. The explanation offered by the author is that many of the highly refractile granules seen within the epithelial cells of the renal tubules are not really fat but a modified proteid called protagon. This protagon reduces osmic acid like fat if mixed with a small amount of lecithin; hence, will pass for fat in specimens hardened in Fleming's or Herman's fluid. In fresh specimens one may, however, distinguish the two substances with ease, since protagon is anisotropic, but fat isotropic. The author has examined a large number of kidneys, and comes to the following conclusions: Fatty infiltration of the kidney is an accumulation of true fat within the epithelial cells of the tubules. The epithelial cells themselves do not suffer by this, and albuminuria does not occur. Fatty degeneration, on the other hand, is due to a less pronounced accumulation of fat, together with a crystallization of protagon within the epithelial cells. The latter are considerably damaged, and albuminuria is the rule. An instance of fatty infiltration of the severest grade is phosphorus poisoning, and it is a significant fact that albuminuria is often absent, at least in the earlier stages. M. Löhlein (Virchow's Archiv, Bd. 180, Nu. 1; Medical News, June 10, 1905).

GALL-STONES AND CARCINOMA.

The association between carcinoma of the gall-bladder and gall-stones is very close. Gall-stones may be looked upon as the determining cause of cancer of the gall-bladder. Thickening of the wall of the gall-bladder is presumptive evidence of carcinomatous change. Cholecystectomy should be performed whenever possible if any thickening of the wall of the gall-bladder be found at the time of operation. G. R. Slade (Lancet, April 22, 1905).

GASTRIC PAIN, LEFT-SIDED.

The author points out that gastric pain occurring reflexly from disease of other abdominal viscera is most often referred to the right side, so that left-sided gastric pain, in the great majority of cases, signifies an affection of the stomach itself. The only two exceptions, fat necrosis of the pancreas and splenic abscess, are so rare that they can be disregarded. An ulcer situated at the pylorus is much harder to diagnose than one in the body of the stomach, since the former gives rise to pain on the right side, which often cannot be distinguished from the pain caused by cholecystitis. With ulcers of the antrum pylori, the pain is accurately referred to the median line just like the reflex abdominal pain caused by chronic appendicitis and that of a hernia of the linea alba. Tumefaction is exceedingly common with ulcers, since the muscularis and serosa will thicken and adhesions will readily form with the neighboring organs, particularly the liver and the pancreas. A mass may thus be felt to the left of the median line, if the ulcer is situated in the middle portions of the stomach. It is very important to diagnose the case sufficiently early, since the end result will be an hour-glass stomach, which can only be treated by means of an operation. The history is rather characteristic: At first there is an attack of left-sided pain directly after eating, lasting several hours. Several months later there may be another attack, the stomach having been perfectly normal in the meantime. In six months or so the pain comes more often and lasts as long as twelve hours, and the irritability of the stomach increases. Finally, vomiting sets in half an hour after a meal. This is purely reflex, since a stenosis has not yet formed. The pain is now permanent and vomiting occurs daily, but blood is found in only half of the cases. Operation is indicated, if rest in bed for several weeks with hot applications and fluid diet does not result in a cure. Riedel (Münchener Medicinische Wochenschrift, April 25, 1905; Medical News, June 17, 1905).

GASTRIC ULCER, ETIOLOGY AND PATHOLOGY OF.

Gastric ulcers may arise from numerous and very different causes, though in all probability such ulcers are not identical with those known to clinicians as the round ulcer or peptic ulcer.

The etiology of this particular lesion seems to require the co-operation of two factors: (1) the corrosive gastric juice, and (2) a local loss of resisting power in the tissues with which the juice comes in contact. (1) The gastric juice, should the author's assumption regarding the diminished resisting power of the tissue be correct, need have no abnormal composition and need not be excessively acid, so that it can be dismissed as no more than an incidental factor in the production of the lesion. (2) The lost resisting power of the tissue, therefore, becomes the essential factor. This cannot be common to the gastric tissue, else the lesion could not be local. It must be focal, and therefore, must depend upon some condition operating upon a circumscribed area of the tissue. It seems very improbable that it can be traumatic since experimental, operative, and accidental lesions of the stomach heal so kindly in most cases. It must, therefore, be nutritional and vascular, whether the vascular disturbance depends upon traumatic injuries of minute vessels resulting from overdistention, pressure, embolism, thrombosis, infection, intoxication, or defective innervation remains to be shown. It is not improbable that all of these have to do with particular cases.

The nature of the defective tissue resistance is obscure and will probably elude our efforts to discover it, as the normal immunity of tissue so long has done. In the light of modern studies, the immunity of the gastric mucosa is no longer referred to the alkaline mucus that covers it or to the alkaline blood circulating in its capillaries. It is simply the immunity of the normal living tissue to its own products. So soon as the vitality of the tissue is disturbed, this immunity fails in part; when it is lost it disappears. If the immunity of the stomach to the action of pepsin is referred to the alkalinization of the hydrochloric acid by the blood salts, how shall the immunity of the intestine to trypsin which is active in alkaline media be explained? Both are due to the natural immunity of the respective cells to the respective enzymes, and the nature of this natural immunity is unknown. Joseph McFarland (Proceedings of the Philadelphia County Medical Society, March 31, 1905).

GASTRIC ULCER, REST IN THE TREATMENT OF.

The writer does not advise rectal alimentation in acute gastric ulcer, since there is evidence that food injected into the colon finds its way into the stomach thus preventing complete gastric rest. There is also increased intestinal putrefaction, with possible autointoxication. The author siphons into the bowel every six hours a pint of normal saline solution, orders an antiseptic mouth wash, and warns the patient against swallowing the secretions of the mouth. No food is given for four to six days, and after this, milk in small quantities. Toward the end of the rest period the complaint of hunger has been no greater than when rectal alimentation was given. Most patients had a feeling of well-being and an absence of pain. Lavage of the stomach in hæmorrhage is advised, the water being heated to 104° or 105° F. In chronic ulcer complete rest should be persisted in as long as the general nutrition permits. The patient should be kept in bed two months and on restricted diet much longer. In pyloric stenosis, gastro-enterostomy, by resting the ulcer, will effect a cure. If there is no stenosis and the ulcer is on the pyloric third of the stomach, gastro-enterostomy may cure by giving the ulcer rest, but according to present experience it will not do so if the ulcer is outside the pyloric third. In such cases excision may result in benefit. F. D. Boyd (Scottish Medical and Surgical Journal, March, 1905).

GASTRO-ENTEROSTOMY.

Some cases of acute and subacute gastric and duodenal ulcer, and many cases of chronic and duodenal ulcer, should be treated by efficient stomach drainage into the duodenum or jejunum. Drainage by pyloric divulsion, and by pyloroplasty with its modifications, has not been successful, and these methods are now practically obsolete.

Gastro-duodenostomy, as modified by Kocher and Finney, may give efficient drainage in many cases, but should be limited to such patients as cannot be operated on by a posterior retrocolic gastro-enterostomy with the anastomosis near the duodenojejunal flexure. Anterior anticolic gastro-enterostomy should not be an operation of election, but an operation of expediency and necessity, to give temporary relief, or to meet special abnormal conditions that may contraindicate the posterior attachment.

The ideal operation of election must be the posterior retrocolic attachment near the beginning of the jejunum, and at the bottom of the stomach in the pyloric end, thus eliminating the loop. This gives the most efficient drainage, prevents the vicious circle and regurgitant vomiting, leaves stomach and intestine in nearly normal relation, and is followed by better immediate and ultimate results. The intestinal incision should be made longitudinally and not less than two inches long, and the stomach incision of corresponding length, preferably in the oblique direction. An elliptical strip of mucosa should be excised from both stomach and intestinal incision. The anastomosis is best made with a continuous suture (Pagenstecher or silk), using a full curved, round-pointed needle. The suture should be applied in double layers, the inner to include all the visceral layers, and unite the cut edges of the opening; the outer, one-fifth inch away, to include the serous and sub-serous layers.

Entero-enterostomy, or closure by suture constriction or resection of the proximal jejunum or the pylorus is contraindicated. It commits an unnecessary traumatism and leaves a deformity that may cause immediate and subsequent bad results. W. H. Wathen (Journal of the American Medical Association, June 17, 1905).

HÆMORRHAGE, SODIUM BICARBONATE IN.

Using dogs for the purpose of his experiments, the writer has investigated the cardio-vascular effects of intravenous infusion, after severe hæmorrhages, of solutions containing sodium bicarbonate. He finds that whereas, sodium chloride alone has the immediate effect of raising blood-pressure, with the addition of sodium bicarbonate to the chloride solution the rise in pressure is markedly increased. The author suggests that in some extreme cases of shock due to hæmorrhage the addition of from $^1/_2$ to 1 per cent. of the bicarbonate to a 0.8 per cent. sodium chloride solution may be of advantage in two respects. In the first place, the rise in all the pressures, but especially in the diastolic pressure, is more pronounced than when the pure chloride is used; and, secondly, the quantity of fluid required is smaller than is the case with the pure chloride; the greater, therefore, is the rapidity with which the solution can be hurried into the circulation—a matter which may be of importance in desperate cases.

There is, however, one possibility which ought not to be overlooked in the employment of bicarbonate—namely, the danger of overworking the heart. From experiments not yet concluded the author finds reason to believe that very strong solutions of sodium carbonate and bicarbonate act very powerfully as cardiac stimulants. Before employing the bicarbonate, therefore, in cases of hæmorrhage the physician ought to decide whether a cardiac stimulant is or is not contraindicated. P. M. Dawson (Journal of Experimental Medicine, vol. vii, p. 1, 1905).

HYPODERMOCLYSIS.

In combating disease there are three ways to relieve the patient: first, by elimination, removing from the system the deleterious effects of disease; second, the stimulation of the internal secretions, increasing phagocytosis and the formation of antibodies; third, the introduction of an antitoxic substance ready formed.

In calling attention to the subject of hypodermoclysis, the author makes no claim to have discovered something new, but only to have done considerable work in this line, and believes it a proceeding either not properly understood or greatly neglected. Hypodermoclysis no doubt acts to some extent by increasing the elimination of effete and toxic materials, but as it does not cause a large increase in the substance normally excreted by the kidneys, as proved by the normal or diminished amount of urea found in the urine after its use, it must accomplish its beneficient effect in some other way than by flushing out the system and diluting the toxins. The flushing out of the whole system and at the same time diluting and removing the toxins is a theory beautiful to contemplate in the abstract. An increase in the percentage of urea was expected after the use of saline solution, but in no case did this occur.

A study of the blood is of far more importance. There is a decided leucocytosis, and there is also a large increase in the number of erythrocytes produced by hypodermoclysis. The leucocytosis has a direct bearing on the subject in the phagocytic theory of Metchnikoff and the erythrocytosis upon the oxygenation of the tissues. The author uses Sajous's explanation (Monthly Cyclopædia of Practical Medicine, December, 1904). The "phagocytic theory of Metchnikoff is that the living cells seize upon and destroy the bacteria in the blood, the organisms that escape from one cell are seized upon by others, but if their multiplication is excessive they overpower the phagocytic leucocytes, and invade the blood-stream. Various observers, Pfeiffer, Buchner, and others, having demonstrated that the blood-serum and other body fluids were likewise bactericidal, Metchnikoff ascribed this fact to the disintegration of the phagocytes, the properties of these cells being thus imparted to the serum. Bordet and other French observers showed this property to be due to two constituents of the plasma; the one (the specific immune body) circulates in the plasma according to Metchnikoff, and resists a temperature as high as 100° C. The other, cytase, thought to be derived from disintegrated phagocytes, is destroyed at a temperature of 56° C. Cytase is considered by Metchnikoff as belonging to the category of trypsins. The view that the serum is endowed with bactericidal powers has been ably defended by Pfeiffer, Nuttall, and others. Buchner and Hankin isolated substances which they termed alexins, and to these bodies they ascribed the power to confer immunity. They were thought by Buchner to be derived from oxyphile leucocytes and kindred cells. Laschtscenka having isolated them from living leucocytes, the bactericidal action was thought by Buchner to be due to a proteolytic enzyme similar to the ordinary digestive ferments. According to Gruber the bacteria cell walls were first made adhesive by the blood agglutinins and thus became vulnerable to the destructive action of the alexins.

"The side chain theory advanced by Ehrlich in 1897 aimed to harmonize the results so far reached in the study of natural and artificial immunity. This theory is not necessarily a complex one, and is based on recognized biological and chemical principles. The colonies of body cells differ from each other in their functional attributes. Nerve cells, muscle cells, gland cells, etc., each having a special affinity for certain drugs: the cerebro-spinal cells having a special affinity for strychnine, the cardiac muscle cells for digitalis, the sweat and salivary gland cells for jaborandi.

"Now as toxins differ in no way from remedies in this particular, they are also specific owing to their affinities, toxin being also taken up by specific cells. This specific action represents the foundation of Ehrlich's theory. The theory itself is based upon the mechanism of cell nutrition in its mode of production of specific antitoxins, or bactericidal and antitoxic sera.

"The cellular protoplasm is very complex and Ehrlich assumes that each cell contains an active central nucleus and of groups of molecules or side chains; these extranuclear molecules he calls receptors. Since each of them has for its function the receiving of food molecules or haptophores (ἅπτειν, to bring), a cell's nutrition is thus carried on through the affinity its *receptors* have for its haptophores.

"Unfortunately the receptors do not combine with nutritive substances only, but have an affinity for substances which may be their chemical analogues and which may include harmful bodies; thus a poison, toxin, or venom may contain the same elements and the same number of them as a nutrient molecule or haptophore, the atoms only being arranged differently (isomerism). Turpentine and oil of lemon each have the formula $C_{10}H_{16}$, though their properties are quite dissimilar. Ethyl formate and methyl acetate have the same molecular weight 74 and the formula $C_3H_6O_2$. It is possible then for a cell to take up any number of isomeric non-nutritive bodies, and when one of these happens to be toxic it is called a toxiphore. If the toxin is not sufficient to destroy the cell or inhibit its functions, the latter seeks to rid itself of the poison and to protect itself from any further aggression from this poison or its isomers. The toxic group of the haptophoric molecules attaches itself to the receptors and then reacts actively upon the cell proper; the receptors themselves being destroyed, the cell (in keeping with Weigert's theory of overproduction) not only reproduces them, but the process is so active that many more receptors are created than are required by the cell itself, and thus accumulate in the blood and lymph. These receptors still preserve their affinity for their specific haptophores and their isomeric toxin; they therefore become cell protectors, capturing and holding the toxin before it reaches the cell."

Haffkine's prophylactic is a good illustration of this action, a toxin being introduced, the system forms its own antitoxin. The author thinks it is probable that the saline solution stimulates the formation of receptors and thus protects. It is said by good observers that the arrow poison used by the South Sea Islanders and other savage tribes is not effective against people who partake freely of salt in their food, although deadly to other animals. Lambinet (Bull. Acad. Roy. de Med. de Belgique, Report on Anæmia in Puerto Rico) found that immersion in a 2 per cent. solution of bichloride of mercury, or a 3 per cent.

solution of lysol for one hour, would not kill ova of the *Uncinaria Americana*, while a strong solution of salt was fatal. Again, Metchnikoff states that his tryptic cytase acts only in the presence of salts, and that when relieved of its salts by dialysis the serum loses its hæmolytic power, but when the salts are restored to it this reappears. In pneumonia the chlorides disappear from the urine and accumulate in the lungs, as shown by Beale a number of years ago, their action in the lungs being no doubt to increase the efficiency of the protective action of the pulmonary fluids (Sajous, *ib.*, November, 1904). Again, the presence of proteolytic enzymes in the serum has been recently demonstrated by Delezenna and Pozerski, and the results confirmed by Hedin. The latter investigator states that the serum of the ox contains a weak proteolytic enzyme which acts in an alkaline medium. The origin of this enzyme has been traced as well as the increased alkalinity and the supply of salts necessary to render serum hæmolytic.

The three prominent theories of immunity have several features in common; one of these is that the destruction of the bacteria in the blood serum is ascribable to a substance which Metchnikoff calls cytase. Buchner calls it alexin, and Ehrlich complement. Another is that the bactericidal body is derived from the leucocytes. Metchnikoff thinks it comes from the phagocytes. Buchner traced it to oxophylic leucocytes, while Ehrlich is inclined to believe that his bacteriolysins are derived from these cells. All three theories concur in recognizing that the blood destroys pathogenic organisms by means of a digestive (ferment) substance, and that this substance is derived from the white blood-cells. This proteolytic ferment is believed by Buchner, Hankin, and Sajous to be supplied to the leucocytes by the ductless glands.

The sodium chloride solution itself probably has the action of a digestive ferment in the blood. A. Robin (Bull. de l'Acad. de Méd., December 6, 1904) announces that "a solution of a metal, in a proportion of .00009 to .0002 gram to the cubic centimeter, has a most remarkable action when injected subcutaneously. It displays a physiological action, like that of a true ferment, out of all proportion to the minute amount of the metal employed. The injection is followed by leucocytosis. Fourteen cases of pneumonia were treated and the crisis was hastened in each case, the temperature dropping to normal before the seventh day. The metal ferments evidently stimulate the action of the organism, reinforcing the natural resisting powers and superposing on the vital and personal reactions a parallel activity revealed by the more rapid disappearance of the correlative symptoms of the infection. The therapeutical use of the metal ferments is an attempt to apply in the clinic the new data furnished by physics and chemistry in the last few years in regard to radioactivity, ionization, and atomic energy, diastases, zymases, minutely divided metals of catalytic phenomena." At this time when we are seeking antitoxic sera for all infectious diseases, saline solution is extremely useful and should be used in all cases when a specific antitoxin is not obtainable, as it acts much in the same way, only its field of action is greater and its applicability wider.

From experiments and observations made by the writer, he believes that the use of saline solution by hypodermoclysis causes a decided increase in both the erythrocytes and the leucocytes. It is also probable, but not proved, except by the leucocytosis, that it stimulates the ductless glands to increased activity.

Certain cases were studied to ascertain, if possible, the mode of action of hypodermoclysis. The urine for twenty-four hours was saved and analyzed, on the day before the hypodermoclysis was used, the twenty-four hours reaching up to the time of injection. Just before the saline solution was used, a count of the leucocytes was made and a hæmotocritic estimate made of the red cells.

The writer concludes that the physiological effect of hypodermoclysis is probably to stimulate the ductless glands, causing an increase of the internal secretions. Certainly an increase of the leucocytes with a consequent increase of the enzyme, cytase, or alexin, increased phagocytosis, with an increase of Ehrlich's receptors; a very decided addition to the salts of the serum with an increase or restoration of its hæmolytic power; an increase in the alkalinity of the serum which, as has been shown, adds greatly to the bactericidal properties. The clinical effects of hypodermoclysis are to raise the blood-pressure, and to strengthen and regulate the pulse. The increase of the erythrocytes enables the blood to carry more oxygen, and the respirations are deeper and less rapid; the blood and tissues are more thoroughly oxygenated; the skin becomes moist (and warm if cold before). Diuresis is increased; the mind becomes clearer, sleep is promoted, the appetite is improved, the patient is encouraged, and there is a feeling of well being.

Hypodermoclysis is not a remedy for everything. To the surgeon the author suggests its use always after hæmorrhage, in shock, and often to prevent shock; it will be found his *best* friend; to the obstetrician, in eclampsia, and after post-partum hæmorrhage, provided the hæmorrhage is well under control. To the physician the author advises its use in anæmia, enteric fever, and pneumonia—in all of these it will help him, and in the last two mentioned will often save a previous life when all else has failed. W. Page McIntosh (New York Medical Journal and Philadelphia Medical Journal, June 10, 1905).

INFANT FEEDING.

Cases of difficult feeding in infancy are cases of *(a)* fat indigestion, *(b)* sugar indigestion, *(c)* proteid indigestion. Each one of these varieties may exist alone or in combination with the others. The most frequent form is proteid indigestion, but cases of fat indigestion are also common.

Each individual infant must be a law unto himself. Babies cannot be fed by rule of thumb. The form of indigestion present, if possible, must be determined and appropriate treatment be applied. The treatment is almost exclusively dietary. The fats and sugar can be regulated by varying the amounts of cream and sugar.

The composition of cow proteid, high caseinogen and low lactalbumin, must be remembered in the management of proteid cases. The caseinogen must often be cut to a low point or even eliminated altogether; lactalbumin must be retained in the food; this twofold object is attained by feeding whey. Increase in quality and quantity of the food must be made gradually. It is desirable that many artificially fed babies should be carefully studied, the symptoms of different forms of indigestion noted, and the data published. F. S. Churchill (Journal of the American Medical Association, May 27, 1905).

INFANTILE TUBERCULOSIS.

Tuberculosis in infancy arises most often from an infection through either the respiratory or alimentary tract; the comparative frequency of these two modes of infection has not yet been definitely determined.

The tuberculosis of early life is most common during the first year, when children are on an exclusive milk diet, and much milk contains tubercle bacilli, and bovine tubercle bacilli are pathogenic for man. At this period, owing to the structure of the intestinal wall, bacteria can probably pass through it, although it is uninjured. Experiments on animals show that inhalation tuberculosis causes usually lesions of the bronchial lymph nodes and lungs alone, while, wherever the portal of entry, these structures become very early involved. Inoculation experiments prove that the mesenteric lymph nodes may be tuberculous within the presence of any gross lesions in them.

Twenty-six and one-half per cent. of the 158 autopsies on tuberculous cases at the Foundling and Nursery and Child's Hospital, which the writer has tabulated, show intestinal or mesenteric lesion on gross examination.

The tuberculosis of infancy, unlike that of later life, is usually an acute, widely disseminated, general disease, with moderate temperature and few symptoms and physical signs unless the invasion of the meninges gives rise to symptoms.

Tuberculosis of the cervical lymph-nodes and of the joints is rarely seen under the third year. The power to overcome a tuberculous infection that has spread from the lymphatics and invaded the organs apparently does not exist in infancy.

While the autopsies tabulated show a very wide distribution of the tuberculous disease in these infants, they probably indicate a much less general distribution than really existed, for the data is based often on hurried gross examination without microscopical confirmation.

A series of autopsies in the same institutions, in which the intestines were carefully examined without being separated from the mesentery, and with microscopical examination of all suspicious thickenings, would probably show a much larger proportion of intestinal involvement and a still greater proportion could be found by animal inoculations. R. G. Freeman (Medical News, May 27, 1905).

INGROWING NAIL, MEDICAL TREATMENT OF.

The writer has found that copious application of dried powdered alum is sufficient to cure every case of ingrowing nail in his experience in about five days. The applications were never painful in the least, and the destruction of the pathologic tissue resulted in the formation of a hard, resistant and non-sensitive bed for the nail, a perfect cure for the ingrowing tendency. The non-toxicity of the alum, its easy application, and the fine results render it the chosen treatment for cases in which surgical intervention is not contemplated. The writer applies a fomentation of soap and water for twenty-four hours beforehand and then pours the alum into the space between the nail and its bed, tamponing with cotton to keep the alum in place, and repeating the application daily. The suppuration rapidly dries up, and pain and discomfort are relieved almost at once. A. Gasparini (Gazzetta Ospedali, vol. xxvi, No. 10; Journal of the American Medical Association, June 10, 1905).

INTESTINAL ANTISEPSIS, EFFECT OF, ON EXCRETION OF HIPPURIC ACID IN THE URINE.

The feeding of gelatine alone increases the excretion of hippuric acid. When putrefactive changes are increased the excretion of hippuric acid is increased, and *vice versâ.* When the intestinal canal was made antiseptic with calomel there was practically no hippuric acid excreted. Intestinal antisepsis has no effect whatever on the excretion of nitrogen. No matter how much gelatine was fed it was completely burned and some of the body's proteid with it. Therefore, gelatine never builds up any tissue, although it may to a certain extent protect the body's proteid from decomposition. J. B. Prager (Medical News, June 3, 1905).

KNEE INJURIES.

Apparently slight injuries of the knee often prove more lasting and annoying than those of a more positive nature, as fracture or dislocation. Every injury of the knee should receive careful examination, since laceration of ligaments or of periarticulate tissues, or displacement of semilunar cartilages, or of loose bodies, may have occurred. Obscure fractures, also, are not uncommon.

Every injured knee requires rest during its acute inflammatory stage; rest in bed, fixed dressings, and crutches are needful. Heat and cold are two powerful agents in aborting a threatened inflammation. Adhesive plaster strapping is of great value in securing partial restraint of a knee and in producing absorption of effusion. Restricting apparatus should be used with discrimination. Blood clots in the joints should be removed by incision and flushings. Effusions, if large, should be removed by aspiration, or incision followed by weak iodine injection. Displaced semilunar cartilages should be stitched in position, or removed. Loose cartilaginous bodies should be removed.

Motion is the normal condition of joints, consequently massage and voluntary motions should be instituted as soon as the inflammatory stage has passed. Neglect of this precaution may result in a neuromimetric patient and a chronic cripple. Sensitive neurotic knees should not be mistaken for diseased ones. Complete primary rest during the inflammatory stage, followed by massage, voluntary and involuntary movements, gymnastic exercises, hot-air treatment, hot and cold douchings, etc., are the best means at our command for preventing ankylosis. Should ankylosis follow, forcible straightenings, tenotomies, osteotomies, etc., may be required. De Forest Willard (American Medicine, June 17, 1905).

LABOR, BIMANUAL DILATATION OF THE CERVIX IN.

The following method for the bimanual dilatation of the cervix during labor is recommended by the writer, when the narrow and unyielding neck of the uterus prevents prompt delivery: The index finger of the right hand is passed into the cervix, and is hooked under the upper lip thereof, the patient lying on her back and the operator standing at her right side. Then, if only a little over one finger can be introduced into the os, the index finger of the left hand is passed along that of the right hand until it reaches the cervix, when it is hooked over the posterior lip, with the palmar surface downward. Then traction is made slowly. It is preferable to do this during the pains, as the manœuvre is painful. After from five to eight such stretchings, each of which should take about a minute and a half, the cervix will begin to yield perceptibly. The process should be continued until the womb admits about four fingers, when the whole hand can usually be introduced, or the forceps applied. In 14 cases in which the author used this method, he has seen neither hæmorrhage nor tears of the cervix. S. G. Krashevski (Roussky Vratch, April 9, 1905; New York Medical Journal and Philadelphia Medical Journal, June 3, 1905).

LEG ULCER, TREATMENT OF.

The writer has employed for the last two years, with considerable success, the following modification from the usual methods of treatment: The medicinal substance having been applied to the ulcer, the limb is bandaged with two thin, firm, long, elastic bandages, one above the other, beginning as near as possible to the big toe. Because of its increased firmness, this is superior to the single bandage.. At night the bandages are taken off and a stimulating dressing applied until morning. When an immovable dressing is required, the ulcer having been dressed, one bandage is applied, and a lime made from tragacanth, .05 per cent.; gelatine, 10 per cent.; glycerine, 5 per cent.; boric acid, 5 per cent., and sodium borate, 5 per cent., smeared over it after heating it: the second bandage is then applied. This produces a very firm dressing and one which is easily taken off. One minute in warm water will dissolve it sufficiently to take it off. H. Voerner (Münchener Medicinische Wochenschrift, Bd. lii, Nu. 8, 1905; American Medicine, June 10, 1905).

MEASLES, KOPLIK'S SPOTS IN DIAGNOSIS OF.

Koplik's spots, the size of a pinhead, bluish-white in color, and surrounded by a red areola, occur in varying numbers on the mucous membrane of the cheek, opposite the molar teeth, in patients suffering from measles; they are seen usually several days before the exanthem appears, and fade in most instances with the appearance of the measly eruption. Of 48 referred to the author's institution with the diagnosis and eruption of measles, 19 per cent. showed the Koplik spots; of 52, in whom the disease appeared while in the institution, 50 were found to have them. The patients included children of all ages. It was found 3 times on the fifth and sixth days before the eruption, 4 times four days before, 7 times three days before, 11 times two days before, and 25 times one day before the eruption came out; in only 17 did they persist long enough to be present at the same time as the actual cutaneous eruption, and in only 2 instances did they last as long as the eruption itself. They were usually small, but easily observed as soon as the mouth was opened, diffuse daylight being the best light for their observation. In some cases they were scattered over lips, cheeks, gums, etc., but usually seen opposite Steno's duct. They were not observed by the author in any other eruptive fever, such as rubeola, scarlet fever, serum exanthemas, so that he considers them absolutely pathognomonic for measles, advising their use for purposes of diagnosis, differential diagnosis, and prophylaxis. H. Bruening (Deutsche medicinische Wochenschrift, vol. xxxi, Nu. 10, 1905; American Medicine, June 17, 1905).

MENINGITIS, EPIDEMIC CEREBRO-SPINAL, TREATMENT OF.

The author warmly urges the use of sodium iodide in this condition and describes an apparently hopeless case in which its administration was followed by remarkably prompt curative effects. The sodium salt differs from potassium iodide and the newer iodine combinations in the rapidity with which it gives up in the body its iodine in the nascent state through the action of the hydriodic acid formed. This is shown by the promptness with which the taste of iodine becomes perceptible in the mouth after injection of the drug beneath the skin of the forehead or neck. The author has on other occasions called attention to the value of this salt in certain diseases of the cerebro-spinal system, and he says that in cerebro-spinal meningitis it will do no harm, while he is convinced that it will be of service and will certainly prevent the development of, and relieve already existing, cerebral disturbances. The drug may be administered subcutaneously or by mouth; in the former case the addition of a little eucaine obviates the slight pain attending injection. The writer suggests the use of a 1 to 20 solution of sodium iodide with .3 gram of eucaine to each 20 cubic centimeters; 1 to 2 centigrams of this may be injected in the neighborhood of the head, two or three times a day. If lumbar puncture is done, 3 to 4 centigrams might be injected. Ruhemann (Berliner klinische Wochenschrift, May 1, 1905; Medical Record, May 27, 1905).

NITROGLYCERINE, TOLERANCE TO.

An excessive tolerance of nitroglycerine can be readily acquired if care is not taken to avoid a too rapid increase of the dose, hence the drug, though intelligently employed, is often of little service. The best rule for giving the drug for its effects on blood-pressure is, in the opinion of the author, to administer it four times a day in dose just sufficient to produce the slightest feeling of fullness in the head or slightly to quicken the pulse. If more than this is given, an undesirable tolerance is likely to be established. When a rather rapid increase seems needed to keep up a constant effect, it is best to discontinue the drug for two or more days, at intervals, and to resume its use with a smaller initial dose. By so doing the use of very large doses and strong solutions, which are not exactly safe to handle, will be avoided. Nitroglycerine has not met expectations as a remedy in conditions of persistent high tension, merely endeavoring at first, at least, to relieve by limiting the nitroglycerine intake and maintaining free action of the skin and bowels. Aconite is often substituted for nitroglycerine in these cases with advantage. D. D. Stewart (Journal of the American Medical Association, May 27, 1905).

ŒDEMA, TREATMENT OF.

In cardiac œdema, when the heart alone is at fault, physiologic rest is the most potent of all remedial agents; but in most cases of failure of cardiac compensation, rest alone is insufficient to restore it. Of drugs the author prefers digitalis to strophanthus. When the incompetent kidneys fail to respond to the stimulus of diuretics, hot-air baths and vapor baths must be resorted to. He advises against allowing the patient to drink copiously of water during the administration of the bath, because the water thus drunk is added to that which is already retained, and, therefore, in proportion to its amount, it neutralizes the remedial action of the bath. Regulation of the diet is also of importance. The indications are to avoid excess of proteids and of such dietetic substances as are likely to irritate the renal epithelium or to increase the retention of water. The quantity of liquid allowed to dropsical patients with Bright's disease should be determined by careful consideration of the conditions involved. The plan frequently adopted of causing the patient to drink copiously of liquids in order to promote the elimination of end-products is fallacious on two grounds: First, the kidneys are incompetent to excrete urine of normal molecular density, consequently it is poor in solid constituents; second, the fact that œdema is present indicates a tendency to retention of water which lays under contribution the whole of the liquid imbibed, leaving but a small proportion of the excess to act as the vehicle for carrying away effete products in the urine, so that the œdema is increased in place of the tissues being flushed out. On the other hand, undue restriction of liquids impedes the output of a certain proportion of solid constituents which the kidneys are still competent to eliminate, provided that the volume of urine be not arbitrarily checked. When the volume of urine is ample, the intake of liquid usually needs no restriction with scanty urine, the intake should be adjusted by comparing daily the intake with the weight of the patient; increase in weight would suggest restriction of intake. It is better to aid diuresis by a sufficiency of water than to attempt to induce it by copious imbibation. J. D. Mann (British Medical Journal, May 20, 1905).

OTITIS MEDIA, ACUTE SUPPURATIVE.

Adenoid vegetations, especially in children, are frequently exciting and always predisposing causes of acute suppurative otitis media and should be removed. When pus does form in the tympanic cavity it should be evacuated, the sooner the better; a properly performed paracentesis being preferable in every way to spontaneous rupture. Too vigorous after-treatment is to be discouraged. Most cases of chronic suppurative otitis media are the result of neglect or improper treatment during the acute stage.

When the mastoid symptoms do develop, energetic treatment is indicated; operation is far less dangerous than disease if not promptly checked by less radical measures. C. R. Elwood (Journal of the Michigan State Medical Society, June, 1905).

OTITIS MEDIA, TREATMENT OF.

The patient should be kept quiet, preferably in bed, and the more active the symptoms the more necessary for the enforcement of this measure. A prompt and free movement of the bowels should be secured by means of calomel and salines. Depletion of the vessels of the membrana tympani and the tympanic cavity should be secured by leeches applied to the region immediately in front of the tragus, and the osmotic effect of carbolic acid (10 per cent.) and glycerine tampons applied directly against the drum membrane. The nasal and pharyngeal mucous membrane should be cleansed with a saline antiseptic spray or douche. Any existing hypertrophied lymphoid tissue should be removed. Cautious blowing of the nose should be advised to limit the introduction of infection to the tympanic cavity. Dry heat should be applied to aid in control of pain.

The drum membrane should be incised under strict septic precautions on the appearance of pronounced redness of any portion of that organ when accompanied by pain, impairment of hearing, and other evidences of acute inflammation. Following perforation of the drum membrane, the use of aseptic dry gauze is advised for the purpose of excluding infection from without and also to withdraw the discharge from the tympanic cavity by capillary attraction.

The syringe should be used only under aseptic precautions, when the discharge is purulent and profuse, to be followed by as thorough drying as possible with sterile absorbent cotton. Judicious inflation by Pollitzer's method should be only employed after the acute symptoms have subsided or after the drum membrane has been opened, to facilitate removal of discharge from the tympanic cavity and to prevent adhesive changes in the sound-conducting apparatus. Any associated systemic disease should receive appropriate treatment. A. E. Bulson (Journal of the American Medical Association, June 17, 1905).

PARATYPHOID FEVER.

The writer states that there are two varieties of paratyphoid fever produced by organisms which differ from each other only in minor cultural peculiarities. These two forms are difficult to distinguish either from one another or from typhoid fever. Of diagnostic importance in paratyphoid fever are the more abrupt onset and the earlier arrival of the acme of the disease as compared with typhoid. Otherwise the symptoms and course of these two affections may be similar, though the course of paratyphoid is usually shorter. Spots, splenic enlargement, nose bleed, hæmorrhages, and a large number of complications may be present in these allied infections. The question of the possibility of a double infection of typhoid fever and paratyphoid has been raised by the presence in some cases of a double agglutination reaction of about the same degree of positiveness. Before this may be assumed as a certainty, however, it is necessary either to recover simultaneously both organisms from the blood of the patient suspected of being the subject of a double infection, or to saturate out the specific and group agglutinins of one infection and demonstrate the presence of the others. As yet these double infections have not been proven, though the saturation tests have not been applied to any great extent in these diseases. The pathology differs widely from that of typhoid fever, the autopsy findings being largely those of a septicæmia. In some cases ulceration of the intestine has been found, but the ulcers have been of dysenteric type and Peyer's patches have altogether escaped. The mortality has been placed at about 6 per cent., being somewhat less than that of typhoid. J. N. Henry (American Medicine, April 15, 1905).

POTT'S DISEASE.

The author thinks that the prognosis of this affection is not so grave as many believe. There is a tendency to spontaneous recovery, and if Nature is aided in time the final outcome is liable to be excellent. Various roads lead to the desired goal, but, in general, puncture and rinsing out the cavity will be found sufficient. This simple procedure can be done by any one and almost everywhere, while it is much safer than other techniques. The writer prefers to rinse the cavity after puncture with a 1 per 1000 salicylic-acid solution, using at least 5 liters of the fluid, or until it emerges clear. It may be necessary to repeat the rinsing two or three times. He introduces the fluid through a Plessi return-flow cannula, and the rinsing is easily done in a quarter of an hour. The author gives the history of several cases thus treated and re-examined several years afterward. The affection healed slowly, but surely, after the injections, and the patients are all free from any disturbances. Those whose cases are described in detail were from 20 to 42 years of age. There is scarcely a trace of their former affection, and all have gained materially in weight, one nearly 60 pounds. In some of the cases the disease had caused paraplegia, but this rapidly subsided under cold hydrotherapy. A. Campini (Riforma Medica, vol. xxi, No. 14; Journal of the American Medical Association, June 3, 1905).

PULMONARY HÆMORRHAGE, TREATMENT OF.

In the great majority of instances, the author considers that hæmorrhage from the lung is due to the erosion of a blood-vessel in a tuberculous cavity. It often becomes a serious question of what is to be done in these cases. In the general treatment the patient should be kept as quiet as possible, in some cases not even allowing him to be moved. The clothing should be loosened and the patient placed in a semi-recumbent position, and on the diseased side. This position favors gravity, the heart being less able to propel the blood into the ruptured blood-vessel; hence, the clot is more readily and quickly formed. This position also favors the removal of blood and mucus. If fiber hæmorrhage is at all severe, the patient should be given $^1/_4$ grain of morphine with $^1/_{50}$ grain of atropine. In this way he is quieted, the cough relieved, and the shock from which he is suffering is very largely overcome. If the heart continues to beat rapidly and forcefully there are three remedies that should always be thought of: aconite, gelsemium, and veratrum viride. These are all cardiac depressants, reducing the force and frequency of the heart action. At present adrenalin chloride is being highly recommended, but it is extremely doubtful if it affects deep-seated hæmorrhages. In the more pronounced cases subcutaneous injections of 40 to 50 cubic centimeters of a 10 per cent. solution of sterilized gelatine can be used with advantage. Pellets of ice, by mouth, and an ice-bag over the affected side are useful. In those cases in which the individual is well-nigh exsanguinated in a short time, and the heart becomes weak, feeble and rapid, the eyes sunken, the nose pinched, the skin cold and clammy, in short, every symptom of collapse is present, prompt action is necessary. Digitalis should never be used. Camphor hypodermically given in sterilized olive-oil, 1 part to 4 of oil, aromatic spirits of ammonia, hypodermoclysis and enteroclysis are advised. Bandaging of the extremities for periods of fifteen minutes is followed by good results. The diet advised is liquid, and should be highly nutritious. W. A. Dickey (Medical Standard, May, 1905).

ROENTGEN RAY THERAPY IN DERMATOLOGY.

Radiotherapy must not be considered a panacea. Although it has a large field of usefulness, it also has its limitations and dangers. Most consistently good results are obtained in epithelioma, rodent ulcer, and acne. Great benefit may be looked for in eczema, chiefly the vesicular variety affecting the hands, sycosis, tinea tonsurans, verruca, lichen planus, nevuses and portwine marks, localized pruritus, favus, etc. Deep-seated epitheliomas, with exposure of bone, cartilage, etc., appear to do well for a while, but usually get worse eventually. The judicious combination of radiotherapy and operation is highly recommended in these cases.

The Roentgen rays are beneficial when pain is particularly to be avoided, as in old, feeble people.

Radiotherapy produces the best cosmetic results. Recurrences after radiotherapy are less frequent than after other methods, and are more amenable to reapplication of the rays. The high vacuum tube is preferable in epithelioma, rodent ulcer, and lupus, the medium or soft tube being employed in other cases. Radiotherapeutic treatment should be instituted as soon as possible, the result being usually in direct proportion to this factor. Epithelioma of the skin usually reacts better than that involving the mucous membranes.

Tampering with caustics and other irrational forms of treatment are to be condemned as measures preceding radiotherapy, since they undoubtedly unfavorably alter the prognosis in such cases.

No rule can be laid down for the prevention of burns, etc.; hence the dosage must be carefully regulated in each individual case. No protective ointments, powders, etc., must remain on the part treated, since they may prohibit or lessen the effect of the rays by interfering with their passage. J. H. Comroe (American Medicine, June 17, 1905).

SCARLATINA, COMPLICATIONS OF.

The most common complications of scarlatina on the part of the nervous system are hæmiplegia and peripheral neuritis. More rarely this disease may be followed by paraplegia, optic neuritis, amaurosis, tetany, pseudoataxia, neuralgia, epilepsy, disseminated sclerosis, Friedreich's ataxia, hysteria, chorea, hydrocephalus, meningitis, and disordered mental states.

With the exception of hæmiplegia and imbecility, the prognosis is good, if those rare organic cases such as Friedreich's ataxia, disseminated sclerosis and epilepsy, which are recorded as following scarlatina, are excluded. Some of these conditions like Friedreich's ataxia are probably merely hastened in their manifestations by the scarlatinal process. The pathologic findings consist of thrombosis, embolism, small cerebral hæmorrhage, rarely abscess of the brain, congestion of the brain, and meningitis, and finally meningitis and encephalitis. J. H. W. Rhein (American Medicine, June 17, 1905).

SHOCK IN SURGERY.

Every tissue and organ has a more or less individual shock-producing value and must be individually considered. The amount of shock produced by a given trauma varies according to the amount and special quality of nerve supply involved and the number and intensity of the afferent impulses originated by the injury or operation.

Cocaine or eucaine may wholly "block" these shock-producing impulses. When one or more of the accessory causes of shock are present the highest possible tax is laid on the surgical judgment of the operator. A precise technique offering a minimum of exposure trauma, grafted on a comprehensive grasp of all the factors entering into the operative consideration, are the ideals for which we must strive. G. W. Crile (Journal of the American Medical Association, June 17, 1905).

SPLEEN.

In the young embryo prior to the formation of the spleen, the primitive mesoderm possesses the property of making blood-cells. In late embryonic life this property is restricted to special organs and tissues. In adult life it is limited to the spleen in cold-blooded animals (fishes and amphibians), while in the warm-blooded animals the red marrow continues throughout life to officiate as a subsidiary spleen. In this way Nature makes provision for the added number of red corpuscles required by the higher animals for their increased respiratory activity and the maintenance of their bodily heat. E. T. Williams (American Medicine, June 3, 1905).

STOMACH CONTENTS; MICROSCOPICAL EXAMINATION DURING FASTING, AND ITS DIAGNOSTIC VALUE.

The presence or absence of hydrochloric acid can be determined by a microscopical examination of the fasting stomach contents. The origin of mucus can be determined only by a microscopical examination. By the microscopical examination, mild cases of pyloric stenosis can be differentiated from simple gastrosuccorrhœa. Constant presence of pus, blood and possibly infusoria in the fasting stomach contents is absolute evidence of extra-pyloric carcinoma.

Benign obstruction can be diagnosed early by the finding of sarcinæ, yeast cells in chains, or food remnants. The early diagnosis of malignant obstruction of the pylorus can be made by the finding of the Oppler-Boas bacilli. William Ackerman and L. M. Gompertz (Medical Record, April 8, 1905).

STRUMA AND CATARACT.

The association of cataract with diabetes and other constitutional diseased conditions has long been recognized. The writer calls attention to the relation of cataract to disease of the thyroid gland. This latter organ is now recognized as contributing an internal secretion to the body. Any disturbance of this function produces an autointoxication, which frequently causes, among other results, changes in the nutrition of the crystalline lens. After a detailed review of the literature, the author gives his own experiences, which embrace 28 cases of cataract with struma. All the cases were in females, in 22 of whom bilateral cataracts developed. The goiter was usually of considerable size, often produced marked stridor by compression of the trachea. The cataract in these cases does not usually include the whole lens; it involves chiefly the nuclear zone and the perinuclear layers. The outer cortex, which is usually opaque in senile cataract, is quite clear in these cases, or at most, exhibits a few punctiform or linear opacities. A thorough examination of the body, including the urine, revealed no other possible cause for the cataract in these patients. A Vossius (Zeitschrift für klinische Medicin, Bd. lv, p. 63; American Medicine, June 10, 1905).

SUGAR IN URINE, DETECTION OF.

Two forms of crystals may appear in urine after treatment with phenylhydrazin: one composed of slender needles arranged in the form of sheaves and half-sheaves is typical of sugar; the other, much smaller, composed of radiating spiculæ, aggregated into spinous masses, has been variously interpreted.

Glycuronic acid in urine produces a crystal very similar to the true sugar crystal. Its component filaments are very slender, and are never short and thick, as may be the case in the thorn-apple crystal. Glycuronic acid crystals cannot be removed by previous fermentation with yeast. The thorn-apple crystal appears in a very large proportion of all urines examined, and increases in number as low percentages of sugar are added to urine normally showing them. A point is ultimately reached in this addition where typical crystals appear. Both the typical crystal and the thorn-apple crystal can be removed by previous fermentation with yeast.

It may therefore be said, in conclusion, that the small "thorn-apple" crystal indicates the presence of sugar, that practically all urines contain traces of sugar, and that the phenylhydrazin test will detect its presence. E. L. McEwen (American Journal of the Medical Sciences, June, 1905).

TABES, CURABILITY OF.

The writer points out the contradictory opinions which exist with regard to the curability of tabes. Some authorities, such as Babinski and Lerredde, maintain that it is curable by intense mercurial treatment; while others, including Fournier and most of the neurologists, hold a contrary opinion. The writer attempts to reconcile these views as follows: 1. The variety in tabetics is such that often they cannot be compared, and hence give different results with the same treatment. Also observations made on analogous cases treated by different mercurial methods give different results, and even also with the same mercurial treatment. 2. The toleration of mercury varies with the condition of the patient, earlier stages of the disease and younger patients supporting it best. 3. Mercury gives different results according to the dose and method of administration. Inunction is uncertain; injection of insoluble salts is also uncertain and may lead to accidents; soluble salts are the best for injection, as they are more under control. 4. The result varies from cure to aggravation of symptoms, according to the care exercised in treatment and according as the case is more or less favorable. Mercurial treatment well carried out may arrest the disease or lessen its severity sufficiently for the patient to go about his business. But work should be reduced and the periods of treatment and repose should be annual and prolonged. Mercurial treatment badly carried out may aggravate the disease, or even cause new symptoms which persist afterward. By careful proportion of the dose to the patient's strength the maximum useful effect may be obtained without fatigue or malaise. 5. Some cases get worse under the most careful treatment, and probably syphilis does not play an equal part in all cases. Certain lesions are cicatricial, and are not affected by mercury, while others in the inflammatory stage will react to the drug. The improvement under mercury does not usually prevent the persistence of certain signs, such as modified reflexes; nor further relapses under the influence of overwork, other infections, etc. 6. Mercury is not the only treatment for tabes; the general hygiene is also important, and work should be restricted.

The author concludes that mercury does not cure in all cases of tabes, but under certain conditions gives favorable results. The contradictory accounts given by different observers are due to the complexity of the cases and to the different methods of treatment. It is an error to give massive doses of mercury to all cases alike, and equally an error not to give it at all. All tabetics should receive mercurial treatment combined with rest, hydrotherapeutics, and re-education of the muscles. The course of tabes is not progressive in all cases, and the author is of the opinion that the classical type described by Duchenne is less common now than formerly. This is probably due to a more general adoption of mercurial treatment. Faure (Gaz. des Hôpitaux, December, 1904; British Medical Journal, June 10, 1905).

THYMECTOMY, DIMINISHED RESISTANCE TO INFECTION AFTER.

The writer has taken up the work initiated by Abelous and Ballard, who removed the thymus gland in frogs, and who obtained a series of phenomena in these animals which pointed to the activity of toxic substances circulating in their blood. The results obtained by the two French observers just named were contradicted by Ver Eecke, who showed, three years later, that the thymus gland might be removed with impunity in debilitated frogs, but that after the operation these animals exhibited a lowered resistance to infection. The writer repeated these experiments, and found that the majority of the frogs in which the thymus had been removed recovered completely. A small number died after an illness characterized by discoloration and ulceration of the skin, gastro-enteritis, and changes in the various organs, which exhaled a putrefactive odor even during life. This illness the author found to be due to the presence of a certain bacillus which stained with Ziehl, and was not resistant to acids. These bacilli, injected into other frogs with extirpated thymus, produced a fatal infection. The bacillus resembled that of the gangrenous septicæmia of frogs described by Legrain. As the author had for years operated on frogs and has never seen a case of gangrenous septicæmia among them, he concludes that the extirpation of the thymus diminishes the resistance of these animals to infection. G. A. Pari (Gazzetta degli Ospedali e delle Cliniche, March 12, 1905; New York Medical Journal and Philadelphia Medical Journal, June 3, 1905).

THYROID GLAND, ELIMINATION OF IODINE AND ITS RELATION TO THE.

The author has been making extensive investigations on this subject. His tests of persons with sound thyroid glands showed that the elimination in the urine of from .5 to 1 gram of sodium iodide, ingested fasting, showed very little variation under like conditions. When the thyroid gland was diseased, however, there were wide variations in the proportions eliminated by various subjects and also by the same person at different times. Study of these variations demonstrated that they were due to difference in the histologic structure of the struma. The thyroid gland takes up the iodine and eliminates it rapidly again under normal conditions. The elimination is very much less rapid in thyroidectomized individuals. When the elimination proceeds rapidly in a case of struma, the gland will soon be found to have shrunk in size. Sometimes when the shrinking is very pronounced more iodine will be found in the urine than had been ingested. The specific parenchyma evidently becomes broken down in these cases. In certain others less iodine is eliminated than normally, and the struma does not shrink in size. This is the rule in the colloid goiter. The physiologic activity of the thyroid in this case is reduced.

Further tests revealed that goiters which reacted to the iodide with retrogression and increased elimination of iodine, undoubtedly took up an abnormal amount of iodine and worked it over in some abnormal manner, allowing it to get into the circulation and to induce symptoms of iodism or thyroidism.

The practical conclusions are to the effect that iodide treatment should be commenced as early as possible in incipient goiter, with small doses every second day. If the struma is capable of recession, an unmistakable effect will soon become manifest, and small periodical doses will suffice to keep it reduced to its smallest possible size. It is unnecessary to give large doses in these cases, as they expose to a needless danger of iodism; that is, of partially abnormal functioning of the gland. If a struma does not show signs of retrogression under these small doses, and if it is a diffuse or nodular colloid struma, a longer and more intensive iodine treatment should be instituted. There is no risk to the patient from such treatment, as the colloid takes up the iodine, and even large amounts are scarcely able to bring the proportion in the gland to the normal figure. On the other hand, even this iodine treatment is rarely successful. A Kocher (Mitteilungen a. d. Grenzgebieten d. Med. u. Chir., Jena, Bd. xiv., Nu. 4; Journal of the American Medical Association, May 27, 1905).

TUBERCULOSIS, EARLY DIAGNOSIS OF.

The importance of diagnosis in the "closed" stage, before bacilli are found in the sputum, is emphasized by the authors. The symptoms are rarely typical. Hæmoptysis is of great significance. Length and weight of body, circumference and degree of chest expansion, give indication of the state of nutrition. A slight rise of temperature in the afternoon ought to invariably arouse suspicion. A two-hourly record should be taken for several days. In some patients the rise appears only after exercise, in women before and during menstruation. On inspection there is often retardation of respiratory movements over the affected area. Percussion may elicit contraction of one apex as compared with the other. Râles, which can easily be discovered in the morning or on damp days, will regularly be absent during the afternoon or in dryer weather. The earliest auscultatory sign is the rough and slightly diminished respiratory murmur. This precedes the appearance of râles. Pleuritic friction is often heard in or near the axillary line between the sixth and eighth ribs. Tuberculin is an important diagnostic method, but great care is necessary in its application. A. C. Klebs, J. H. Musser, F. Billings, J. C. Wilson, and H. R. M. Landis (Boston Medical and Surgical Journal, June 1, 1905).

TUBERCULOSIS, HEART AND CIRCULATION IN PROGNOSIS AND MANAGEMENT OF.

The relation of the heart and circulation to the course of chronic pulmonary tuberculosis is a factor both in the prognosis and management of such cases which is not generally accorded the attention and study which its importance demands. The writer suggests the analogy between the relation of the heart and circulation to the local disease in acute pneumonia and in chronic pulmonary tuberculosis. According to his conception, this relation differs chiefly in that the pulmonary obstruction develops rapidly in the one and more slowly in the other. By reason of this difference, more can be done to conserve or to increase the power of the heart in phthisis than in acute pneumonia. It follows that close observation of the circulation in the course of phthisis is imperative, and that a weak second pulmonic sound is to be regarded as a danger signal, just as in acute pneumonia. Over-exercise is considered by the author as a potent factor in the production of tachycardia in consumptives, and he cites statistics from the Winyah Sanitarium showing that of 60 patients with disturbed heart action, in 58 per cent. over-exercise had been a contributing factor in its causation. For the entire number of 261 patients, the figures show 72.9 per cent., whereas for those with tachycardia the figures show only 34.1 per cent. The restriction of exercise for consumptives with weak hearts is strongly urged, and the physical management of such patients, together with the regulation of the diet, bathing, etc., is described in detail. Von Ruck (Medical Record, June 3, 1905).

TUBERCULOSIS, X-RAY IN DEEP-SEATED.

Tuberculous laryngitis may be aided and even cured by x-ray treatment, provided there can be brought about an improvement in the primary pulmonary condition, however that may be induced. Too vigorous treatment will cause a reaction, which may be carried to an unfavorable degree; therefore, great care is necessary in determining the proper dosage in each case. The pulmonary lesions may be benefited, probably, in selected cases, but even greater precautions should be observed.

Finsen light applications may be, but are probably not, of any value in treating the laryngeal lesions. Only the most powerful lamps need be tried. Such exposures are of value in lessening or retarding a skin reaction from the x-rays. H. K. Pancoast (Proceedings of the Philadelphia County Medical Society, May 31, 1905).

VACCINATION DURING SMALLPOX.

The author has investigated the question as to whether a successful vaccination or revaccination of a patient suffering from a suspicious rash, speaks strongly against that rash being one of smallpox. In 20 cases of undoubted smallpox which were vaccinated or revaccinated after the appearance of the eruption, 11 vaccinations or revaccinations were successful. In the greater proportion of the successful cases well marked, typical vaccine vesicles appeared at the site of vaccination. These vesicles became evident from the fourth to the sixth day after the operation and ran the usual course. In some cases, instead of the typical vesicle, there was merely an indurated raised papule. Ten of the 11 successful cases were vaccinated during the first four days of the disease. It could not be detected that vaccination or revaccination when performed after the smallpox eruption had appeared, had definitely any modifying influence on the rash or on the course of the disease. J. C. Hibbert (Lancet, May 20, 1905).

WIDAL REACTION.

Living and dead cultures are about equally sensitive to the action of the agglutinins of typhoid fever, though in dead culture the reaction may require a longer time to take effect, and it is therefore necessary to keep the specimen under observation for two hours. In some cases the reaction is quicker with the dead than with the living cultures. The dried blood method is equally effective with dead as with living cultures. The reaction, when it takes place, is more characteristic with dead cultures than with living cultures. There are no pseudo-reactions with dead cultures.

Dead cultures do not seem to lose their sensibility to the agglutinins of typhoid fever for a long time. The writer has now in use a dead culture which was prepared six months ago, and it reacts just as typically as when first used. E. Andrade (Medical News, May 27, 1905).

Book Reviews.

ATLAS AND TEXT-BOOK OF TOPOGRAPHIC AND APPLIED ANATOMY. By Dr. O. Schultze. With Additions, by George D. Stewart, M.D. Contains 25 Figures on 22 Colored Lithographic Plates, 89 Text-cuts and 60 in Colors. Philadelphia and London: W. B. Saunders & Co., 1905. Cloth, $5.50, net.

This Atlas is admirably fitted for the needs of the clinician. The shape and size of the book is convenient and the arrangement of the plates and text so simple and clear as to offer a most pleasurable opportunity to reinforce the mind on points of anatomy.

The authors do not claim to include everything, but it is eminently practical and an admirable supplement to more systematic works.

The contents include descriptions of the head, upper extremities, thorax, abdomen, lower extremities, and a full index.

The colored plates are beautiful, the colors being fresh and clean. The drawing is admirable.

A German book of plates is sometimes confusing to the American from the phrasing of the legends, but this has been corrected in the lithograph, and the large plates are covered by a transparent paper with index lines leading to legends in plain English.

It would be pleasant to compare this work with others of similar scope, but this is scarcely necessary. Altogether the book is highly commendable and will prove a valuable desk reference for frequent consultation.—J. M. T.

MANUAL OF PRACTICAL HYGIENE FOR STUDENTS, PHYSICIANS AND HEALTH OFFICERS, ETC. By Charles Harrington, M.D., Assistant Professor of Hygiene at Harvard University. Third Edition, Revised. 118 Engravings and 12 Plates. Cloth, $4.25, net. Lea Brothers: Philadelphia and New York.

This admirable manual is now presented in its third edition, thoroughly revised. Two large editions have already been exhausted in less than four years, and a new section is added on Infection, Susceptibility and Immunity. The price, however, remains the same.

No subject is more interesting to the active practitioner of medicine than Hygiene. Unfortunately, it has been much neglected. The absence of adequate information on this most practical phase of medicine is of grave injury to the reputation of many otherwise accomplished medical men.

To select two or three chapters for comment, the reviewer is struck with the value of the chapter on Milk and Milk Products.

The chapter on Habitation of Schools is most clearly and admirably presented. There is an admirable review of the subject of Vital Statistics, including many valuable suggestions.

The subject of infections, immunity and susceptibility also is exceedingly important.

The chapters on Military, Naval, and Tropical Hygiene, the relation of insects to human diseases, and the hygiene of occupation, are admirably presented.

The reviewer cannot refrain from saying a word about the comments on the splendid work done by Reed, Carrol, Agramonte and the self-sacrificing Lazear, facts which ought to be clear in the mind of all American physicians and in fact all loyal Americans.

Indeed, few books that have passed under his hands have given him more pleasure to read than this.—J. M. T.

SAUNDERS'S POCKET MEDICAL FORMULARY. By William M. Powell, M.D. Seventh Edition. $1.75, net. W. B. Saunders & Co., Philadelphia and London, It is scarcely necessary to do more than advert to this excellent little book which has been appreciated so largely and is now presented in an improved form.

Most medical men are familiar with it and will be glad to welcome it.—J. M. T.

AMERICAN EDITION OF NOTHNAGEL'S PRACTICE, MALARIA, INFLUENZA AND DENGUE. By Dr. J. Mannaberg, of Vienna, and Dr. O. Leichtenstein, of Cologne. Entire Volume Edited, with Additions, by Ronald Ross, F.R.C.S., F.R.S., Professor of Tropical Medicine University of Liverpool; J. W. W. Stephens, M.D., D.P.H.; Walter Myers, Lecturer in Tropical Medicine, University of Liverpool. 769 Pages, Fully Illustrated; Eight Full-page Plates. Philadelphia and London: W. B. Saunders & Co., 1905. $5.00.

This book constitutes the tenth volume of Nothnagel's "Practice of Medicine." The editors have made a number of additions rendered essential by recent advances in the study of malaria, *e.g.*, in its relationship to the mosquito. Few pages fail to exhibit evidences of their industry and judgment. The translation is authorized and made under the supervision of Alfred Stengel. The three subjects presented are perhaps of uneven importance to most practitioners, and occupy space proportionately, but if the data on Malaria alone were presented, the value of the volume would have been fully reached. Few books could so entirely claim our attention as this first section of 494 pages. Tropical medicine is now so definite a part of the equipment of the American physician that this treatise on Malaria and Dengue will prove most useful. When the pages devoted to Influenza are studied they will be similarly welcomed, so vivid is the wording and varied the historic and clinical pictures, so practical the bearing upon the daily experience of all, both layman and practitioner. Indeed, much, perhaps most, of the volume would fix the attention of any intelligent reader. The character of the work being encyclopædic, it is impossible to do justice to it in the review space at our command.—J. M. T.

THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY. For Students and Practitioners. By E. C. Dudley, A.M., M.D., Professor of Gynæcology, Northwestern University Medical School, etc. Fourth Edition, Revised. With 419 Illustrations in Colors and Monochrome, of which 18 are Full-page Plates. Lea Brothers & Co.: Philadelphia and New York. 1904.

This new, revised and enlarged edition of "Dudley's Gynæcology" is a valuable addition to the already rich list of text-books on this subject. It will be found of special value to the student, as the subjects have been most advantageously arranged, the author having chosen to group the diseases in their natural pathological and etiological sequence, instead of considering them as they affect each organ individually. The employment of heavy-faced type for headings and sub-headings, the use of parallel tables for differential diagnosis, and a good index, are valuable aids to both student and practitioner. The text is clear and concise; it treats of the diseases of women from a surgical as well as from a medical point of view, its teaching is sound and in general conservative; it contains all the recent advances in gynecology. The typography is excellent, the illustrations deserve special mention, many operations have been depicted step by step in a series of drawings, of value to those having limited operative experience.—T. H. E.

Books and Monographs Received.

The Editor begs to acknowledge, with thanks, the receipt of the following books, and monographs:—

"Practice of Gynaecology." By W. Easterly Ashton, Philadelphia. W. B. Saunders & Co., Philadelphia.——"Malaria, Influenza, and Dengue." By J. Mannaberg and O. Leichenstein. W. B. Saunders & Co., Philadelphia.——"Saunders's Pocket Medical Formulary." By William M. Powell. W. B. Saunders & Co., Philadelphia.——"Atlas and Text-Book of Topographical and Applied Anatomy." By O. Schultze. W. B. Saunders & Co., Philadelphia.——"Practical Hygiene." By Dr. Harrington. Lea Bros. & Co., Philadelphia.——"Year-book of the United States Department of Agriculture," 1904.——"The Use of Rubber Gloves as an Aid to Prophylaxis in Obstetrics." By F. J. W. Maguire, Detroit, Mich., 1904.—"The Universal Method of Clinical Writing by Means of Clinography." By Professor V. Pensuti, Rome, Italy, 1905.——"Hay Fever and Its Preventative Treatment." By A. B. Conklin, Ambler, Pa.——"Die Balneotherapie in der Nervenheilkunde." Von A. Eulenberg, Berlin, 1905.——"The Progress of the Sanatorium Movement in America." By W. H. Baldwin, Washington, D. C., 1905.

Received from the United States Department of Agriculture the following:—

Inoculation of Soil with Nitrogen-Fixing Baceria. By A. E. Woods, 1905.——Practical Results of the Cup and Gutter System of Turpentining. By C. H. Herty, 1905.——Canadian Field Peas. By Thomas Shaw, 1905.——Miscellaneous Cotton Insects in Texas. By E. Dwight Sanderson, 1905.——Range Management in the State of Washington. By J. S. Cotton, 1905.——Extermination of Johnson Grass. By W. J. Spillman, 1905.——Tomatoes. By L. C. Corbett, 1905.——Consumers' Fancies. By George K. Holmes, 1904.——Experiment Station Work, XXIX, 1905.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

ON THE MANAGEMENT OF EPILEPTICS.

SINCE epilepsy is due to many causes it would be difficult to outline a uniform treatment answering all or even a definite number of cases.

It is so proteus-like in its amenability to treatment, too, that it is possible to cure certain forms of the disease without medicine, each patient requiring such different management.

The important thing to remember is that Bromide of Potassium (spelling it with capitals because of its popularity) ought not to be used as a matter of routine or regarded as the best remedy for all cases, or the drug to be always and persistently administered, Professor Niemeyer to the contrary notwithstanding; and the physician who relies on it to the exclusion of other remedies and the neglect of careful and specific dietary and psychic directions is not doing all that can be done for his patient. Besides; bromides given the wrong way may increase in frequency and violence rather than diminish the attacks.

There is no chronic disease wherein attention to hygienic particulars render such good results, especially in the prevention of nocturnal attacks, where gastric and intestinal irritation due to excessive eating—not excessive in quantity, but beyond the digestive capacity of the individual—is the causative factor behind most seizures.

In such cases, sometimes the happier results are produced by so regulating the diet that, after retiring, nothing remains in the intestinal tract to disturb repose or cause the irritation that, transmitted presumably to the medulla oblongata, ends in convulsion, for intestinal or any other peripheral irritation may be the button which, when pressed, results in the ringing of the bell, viz.: the explosion or spasm at the other end of the line.

Epilepsy is not a matter of merely morbid muscular activity occurring with irregular periodicity, but a *series* of phenomena, beginning, we might say, in convulsions and ending in exhaustion. Hence the treatment should include more than an attempt to control the convulsive elements by sedatives.

In taking charge of an epileptic therefore—a serious and responsible task, and one not to be lightly undertaken—it ought to be done with the resolute purpose of effecting a *cure*. It is well first to give a definite period to the intimate study of the individual before resorting to the use of bromides or other sedatives, as these sometimes disguise or conceal the remote cause of the disease, preventing a proper diagnosis and prognosis, just as morphia may do the same thing in diseases of the abdominal cavity.

Indeed, this procedure or rather preliminary suspension of drug treatment is necessary, too, in order to get rid of the misleading effect of former treatment, especially if the patient has been taking patent nostrums, for excessive medication is the rule rather than the exception in most cases of epilepsy.

Even if convulsions should occasionally occur during this period of preliminary study, still for a while the treatment should consist chiefly in correcting errors of diet, in moral suasion, and encouragement.

Adoption of this rule is very important as the physician needs to effect the removal of every factor likely to confuse his judgment in his study of the patient in what we might call his unmedicated state.

Certain varieties of hysteria, epileptiform attacks in incipient paretic dementia, mild monomanias, and other psychoses, associated with hysterical symptoms simulating epilepsy, have been mistaken for it, and it is well to exclude these in the beginning by rigid differentiation.

It is not an uncommon occurrence to be consulted by the parents of girls who are merely chloritic, with pale complexions, emaciated forms, faces disfigured with bromine acne, and exhibiting other evidences of being excessively treated for epilepsy, when disease may perhaps be hysteria due to malnutrition, or some disorder of the uterus or its appendages with epileptiform symptoms.

There are divers conditions so similar to epilepsy in certain impressive particulars that one needs every aid to distinguish the one from the other. To the end that the history of the origin and peculiarities of each attack may be intimately studied, the patient, when possible, for a while should be under the daily surveillance of the physician, and during this initial period, when getting medically acquainted, there will occur opportunities of noting many things that might otherwise remain unobserved.

If constipation exists it should be corrected. If there is excessive eating—epileptics, especially in advanced stages, are voracious sometimes to the point of gluttony—diminish the quantity, if necessary prescribing nourishment by weight, and limit the daily allowance to food easy of digestion, avoiding superabundance. A bill of fare, if demanded sometimes by certain exigencies, should be written out and no deviation from it should be permitted without consent of the doctor.

Epileptics ought to be liberally fed, but they should not be expected to regulate their own food or administer their own medicine, and in most cases they should become vegetarians, at least to the extent of avoiding meat in bulk.

If there is elongation of the prepuce, with impossibility of retraction over the gland, with inflammation or without, with irritating accumulation of smegma or without, cut it off. Within the past 5 years I have had three cases of cure, evidently resulting from this simple operation; one in a man 62 years old. In two of these no drugs were used. Whether these cures were due to surgical shock or psychic influence, or the removal of the irritation, I cannot tell. In either event, however, where the condition mentioned above is present, circumcision is commendable.

If there are *annoying* cicatrices, the result of injury previous to the first appearance of attacks, they should be extirpated, and any consequent adhesion of the softer tissues to the bone should be detached. Abrasions or fissures of the os, ovarian irritation, or other disorder of the uterus or its appendages, should be corrected.

If the patient belongs to the unemployed class, or has been advised to stop work because of his affliction, see to it that a suitable, safe occupation is found for him where he may be in a position to acquire independence and self-esteem by being employed, with the added dignity, when possible, of a bank account with money he has earned himself. This at least has a good moral effect on patients who have been unnecessarily invalided and consequently ennuied by enforced indolence.

Epileptics are not usually lunatics, not even invalids in the ordinary sense. There is no invariable impairment of the mental faculties. Unless complicated with other diseases they are physically sound. There is no constant pathology, no invariable lesion. Every condition mentioned by writers as a *cause* of the disorder has been known to exist without epileptic manifestations. Some of the greatest intellects, most ingenious and comprehensive minds even, have been thus afflicted. Under such circumstances enforced idleness serves no useful purpose. Moderate work is the normal state of civilized man, and no people need the stimulation consequent upon employment more than these otherwise healthy people, thus handicapped with a neurosis.

All patients, especially children, in the beginning of treatment, are the better to have an anthelmintic administered, followed by a brisk cathartic, but in treating epileptics for other diseases tincture of muriate of iron and large doses of quinine should be avoided, as these, like the bromides in concentrated solution, are liable to do more damage than good.

Where there are tumors occurring previous to attacks, particularly neuromatia, also exostoses, penetrating spicula of bone or depression of cranium due to fracture, surgical interference is demanded, and of course, syphilis, anæmia, and hydræmia, possible inferential causes of the disorder, ought to be corrected with the proper remedies; but, as intimated above, when chalybeate tonics are indicated, hydrocynanate or pyrophosphate of iron should be preferred to other preparations of iron. Tincture of muriate should never be given to epileptics.

The reader will understand the above remarks as not by any means including all that might have been said about the preliminary stage of management if there had been more space at disposal, but merely as a few sugestions likely to aid in making subsequent treatment more effective.

After having thus cleared the field, as it were, of conditions calculated to produce confusion of vision, the physician is better prepared to treat the patient by drugs.

In my next paper I shall show the possibility of producing a greater percentage of cures than that recorded in the books, and with less discomfort to the patient.

MATTHEW WOODS,*
Philadelphia.

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*Member of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.

PERICOLITIS DEXTRA.

One meets, with more or less frequency, cases presenting an almost typical history of chronic appendicitis with one or more acute or subacute exacerbations. On examination, the physical signs correspond to the symptoms. Frequently tenderness will be noted extending along the ascending colon. When the abdomen is opened there is found a delicate curtain or web of adhesions covering the cæcum. The ascending colon has many and dense adhesions to the omentum, etc. The evidences of previous inflammation are least marked near the appendix, but increase rapidly toward the hepatic flexure. Often after tearing through the delicate cæcal adhesions one discovers the end of the cæcum with the appendix, lying perfectly free and healthy. As a rule, however, the appendix is unhealthy and frequently hidden among adhesions. Removal of the appendix *plus* destruction of adhesions often leads to symptomatic recovery; but often it does not.

The conditions found in such cases have puzzled me much, as I could not bring myself to believe that the appendix was more than secondarily involved. There was evidently pericolitis most marked near the hepatic flexure. In one case where the symptoms simulated hepatic colic there was the scar of an old ulcer on the colon.

In December, 1904 (Revue de Chirurgerie), *Alglave* published some observations made on cadavera in the dissecting room. There were 8 male and 8 female subjects. In 4 of the latter the right kidney was dislocated downward, carrying with it the hepatic flexure of the colon. As the cæcum remained fixed, while the upper part of the colon was pressed downward, the result was kinking of the ascending colon, stasis of the cæcal contents, dilatation of the cæcum and of part of the colon, colitis, pericolitis, adhesion formation, etc. Alglave attributed the whole series of conditions to the nephroptosis. Arbuthnot Lane (British Medical Journal, 1905) considers the nephroptosis secondary to the distention and descent of the colon, which are due to chronic constipation resulting from errors in diet, etc., which may date back to childhood. *After* very thorough dietetic and medicinal treatment has been tried and found wanting, Lane recommends division of the ileum about six or eight inches from the cæcum, closure of the divided ends of the ileum and anastomosis of the proximal segment to the sigmoid or rectum. The results following this operation he finds excellent and, strange to say, his patients have *not* been subsequently troubled with diarrhœa.

This does not tally with the findings of Macewen in cases where a large cæcal fistula has been formed or where the cæcum and much of the ascending colon have been excised. In these, Macewen has found most troublesome diarrhœa leading to great reduction in weight. Possibly the two sets of observations may be less contradictory than appears at first glance. In Lane's cases the colon prior to operation was in a diseased condition and not carrying out its functions, while the operation put the excluded segment of gut at rest, *i.e.,* in a state favorable for the recovery of its functional powers. After the operation of exclusion the intestinal contents can no longer pass into the cæcum and colon, but the secretions of these portions of gut can and do drain into the sigmoid, where they mix with the intestinal contents. Of course, the mingling of colonic juices and intestinal contents cannot here be so thorough as in the normal site, but imperfect as it is, it may explain why Lane's patients escaped diarrhœa. I have not as yet carried out Lane's recommendation, but his method seems reasonable in a limited series of cases.

Although the appendix is not the starting point of the disease, yet if it is secondarily affected it ought to be removed, because the dangers to be apprehended from a secondary are probably as great as those from a primary appendicitis.

J. F. Binnie,*
Kansas City, Mo.

CHROMAFFIN SUBSTANCE IN RELATION TO VASOMOTOR ATAXIA, AND THE EQUILIBRIUM OF INTERNAL SECRETIONS.

In 1892 I called attention to a condition I denominated *vasomotor ataxia,* and suggested that this was the basis upon which various syndrome groups—Graves's disease at the one extreme and Raynaud's disease at the other extreme—were developed in accordance with the incidence of various additional extrinsic and intrinsic etiologic factors. In subsequent communications I have reported a number of cases, serving to complete the links of the chain. Among the various conditions coming under the designation suggested are those reported by Osler under the name of the "erythema group." The recent experimental observations on the production of arteriosclerosis by the injections of adrenal substance, and Wiessel's demonstration of the chromaffin system, its destruction in Addison's disease, and its defective development in arterial hypoplasia and status thymicus, are suggestive of a definite pathologic explanation of the clinical observations alluded to. The vasomotor ataxic condition may be dependent on imperfect development or inharmonious distribution of chromaffin; angina pectoris, Raynaud's disease, erythyromelalgia, and intermittent claudication may be associated with excessive chromaffin development, local or general; while Graves's disease, hay fever, status thymicus, Addison's disease, acromegaly, and myxœdema are brought into relation as associated with lack of chromaffin, either from deficient development or excessive destruction. This leaves many etiologic and pathologic problems still to be solved.

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It brings into view once more the reciprocal relations of the thyroid, pituitary, adrenal, and thymus glands on which Sajous has laid such stress, substituting, however, the term chromaffin system for Sajous's term of adrenal system, inasmuch as the pressure-raising substance of the adrenal is shown to be the chromaffin of which its medulla consists, and which is identical with the chromaffin distributed throughout the sympathetic system of nerves and in certain situations in the heart and vessels. In Addison's disease Wiesel has shown that chromaffin disappears both from the adrenal and the sympathetics, thus reconciling the apparently conflicting necropsy records of this disease. Leukoderma, which is often associated with vasomotor ataxia, may be found to have some relation with this group of disorders, a subject that can be better discussed when the cutaneous pigmentation of Addison's disease is brought into relation with the disappearance of chromaffin. It may be that the absorption of pigment in leukoderma is a compensatory process. At all events the metabolic balance of the internal secretions is evidently a most important matter of vital equilibrium; and the paths indicated by Sajous must be fully explored experimentally. When this is done, and exact knowledge takes the place of the speculation to which we are now, in many directions, restricted, our hygienic, therapeutic, and prophylactic resources will be much increased. At present we know empirically that thyroid gland substance is valuable in arteriosclerosis, and should be used in myxœdema, Raynaud's disease, angina pectoris, and intermittent claudication—diseases in which chromaffin may be excessive. As I have elsewhere pointed out, it belongs therapeutically with the nitrites. Perhaps a definite substance, antagonistic to chromaffin, may some day be extracted from it. We also know empirically that benefit follows the use of thymus and adrenal substance (chromaffin) in Graves's disease, hay fever, Addison's disease, and other conditions in which chromaffin is actually or relatively deficient. The subject invites investigation.

Solomon Solis-Cohen.*

SELF-EDUCATION OF THE GENERAL PRACTITIONER.

Physicians are often asked, or ask themselves, what may be the scope, possibilities, and limitations of their spheres of usefulness. A host of critical, even hostile, forces seem arrayed against their best efforts. Doubts are cast on their reasonings, their resources. Sneers are plentiful. They are confronted with "cures" wrought by old mysticisms cropping up in new and convincing guises. Failures to overcome insuperable morbid influences are often magnified, till the great science of medicine with its heritage of the ages is held by many in disesteem.

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Interwoven through all this are seen glaring instances of commercialism sullying the good name of individuals, vilifying purity of motive, impairing that priceless quality of humanitarianism which is the distinguishing characteristic of our profession. All this we endure with varying degrees of patience, but it is wrong to submit without protest.

To recount the utilities which we perpetually furnish, to eulogize our triumphs, is not for us to do. Those who have profited by our rescues, our self-abnegation, by our deeds wrought in the sacred privacy of terrified households, when life trembled on the verge or health was ebbing away, those are they who owe it to us to bear witness. Gratitude to the rescuer is rare, almost a figment of optimistic imagination. At least we can lay bare our hearts to each other and take counsel together, rehearse our shortcomings, purge ourselves of follies, and by frank comparisons seek to rid ourselves of worn-out measures, to rejuvenate those which deserve to live and make choice, cautiously, among the endless ruck of newly devised methods and agencies.

How can this be done? The subject warrants a treatise. Let each one do his own thinking unremittingly and, in his own reading, seize the vital points always with critical exclusiveness. Here only a few suggestions can be offered. The first thought which arises is that we have accumulated an overwhelming mass of literature, not one-third of which is worth perusal. It is the product of much loose thinking, inexact researches, feverish leapings at conclusions, inordinate hopefulness of miraculous discoveries. Confusion, to the point of confounding, often results from accepting specious conjectures, opinions, based on theorizings unfortified by essential facts. Those who assume the duty of ascertaining and formulating these fundamentals, notably the physiologists, have failed often to supply us working principles where we chiefly need them. The most practical advances have been furnished by the surgeons, the least by the neurologists.

In general medicine, take as an example tuberculosis; after much attention to its pathology and therapeutics we are informed by "authorities" as a finality, that our main, some say our only, reliance, shall be upon open air and dietetics. Such a conclusion is a pitiable confession of failure. Upon scrutiny it will be felt that this is not adequate in view of what has been learned from empiricism alone, much less from the scientific researches of intellectual giants. It is fairer to assume that we have either omitted to learn some important supplemental facts or have not achieved a practical medical philosophy. Perhaps both are true, when we reflect that it has been pretty thoroughly established that by far the larger part of our heritage in medicine is derived from wise empiricism.

From long experience we have evolved invaluable rules governing the use of medicines. Less exact knowledge exists concerning those most important auxiliary remedial agencies, entitled "physiologic," such as the application of heat and cold, dry or through water, movements, manipulations, readjustments, stretchings, pressure on nerve points, motor and respiratory education, diet, climate, and such like rational agencies, all which are well worth our practical study and judicious employment. The deeply scientific yet promising realm of electricity, special rays, belong to the specialist; no tyro is safe to meddle with them.

More puzzling are those psychic agencies, hypnotic suggestion, mysticisms, the contemplation of sacred symbols, which have exercised powerful effects on functional disabilities and psychoses since the dawn of history. These justify our best attention and deserve our employment. We are fully alive to the efficiency of these instruments, but too rarely exhibit a working knowledge of how to use them. They are not only legitimate factors in our armamentarium, but are powerful for good when judiciously employed, and far otherwise when effects thereby achieved by fanatics or charlatans are brandished in our faces. All this constitutes "a large order," but it is not impossible to compass a working knowledge of their fundamental potentialities.

It is the part of wisdom to *formulate clearly in the mind certain principles of treatment,* to secure all the light possible in this direction, and to utilize these constantly. Since it may not be feasible (it is always posssible) to ascertain all those which the wealth of data on record is capable of supplying, it is desirable for each one to keep a note-book, preferably indexed, wherein is preserved memoranda of those elemental principles which, when learned, shall be systematically outlined for prompt reference. Revision will be frequently needed, but the fundamentals can only change when the sum total of knowledge of physiology and general pathology shall be reached.[1] Success in applying these comes by experience.

For analogy note the work of handicraftsmen in any line. Simple materials and tools are no bar to large results if only adequate skill be displayed in their application.

Empiricism here as elsewhere is our chief guide, always to be supplemented by the findings of exact science. Modifications weigh more forcefully often than revolutions. Data learned from authoritative sources often fail to fit to our facts, probably because we do not always grasp the proper point of view or omit to consider some important factors not in evidence. Knowledge is only power when we can apply it consistently to the concrete instances. Small practical points gained by experience are worth often more than some scientific conclusions, and justify recording.

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[1] The reading of carefully prepared abstracts, such as are furnished by THE MONTHLY CYCLOPÆDIA, offers to the general practitioner often advantages over the full article; at least it offers economy of time. If the subject warrants, the original can be secured later. Pencil underscoring of even these will doubly direct attention to the real points.

Again, all disease is of so complex a parentage that the more obvious phenomena may not be those which cause the major distress. Here clear concepts of the principles of general pathology, organic interrelationships, the status of oxygenation, metabolic balance will be needed to help us disentangle the problem. Unless we have clearly in mind these fundamentals, well garnished by frequent revision, we can only form conjectures, not conclusions. A man has need of a thorough knowledge of his tool kit, what it contains, the condition of each and skill in applying any or all. He requires few tools if he be a master of those he has. No science and few arts fail to form points of contact with the wide realm of medicine, but for the solution of every day problems a hand-book on practice is of more use than an encyclopædia or ten-volume "system." The hand is an instrument always present and of limitless capabilities, often unsuspected by the owner.

It is true the instincts become educated insensibly by long years of meeting difficulties, and we all are familiar with instances where we know what is right to do, but would be sorely puzzled to explain our reasoning. Those reasons, nevertheless, ought to be more definite than they often are. We can attain this clarity of concept if only we *form the habit of condensing our attention on principles of action,* their bearing on causes and effects. Why does the average practitioner fail to add anything to the sum total of knowledge? Not because he is untrained in literary construction, as he usually claims, but because his mind is a mere curiosity shop of unclear impressions, half-retained beliefs, half-released, faulty impressions, altogether shop-worn ideas, bereft of definite convictions. He may fail utterly in utilizing his vague notions gained by reading extensively in the foremost journals, whereupon his patient, exhausted in patience and confidence, seeks and gets relief or cure from some narrow-minded cancer or herb doctor, bone-setter or osteopath, who at least can and does apply with conviction and skill simple principles of drugs or mechanics to definitely indicated problems.

As an instance of broad philosophic formulation and interpretation of the fundamentals of medicine the most conspicuous instance known to me is that of Sajous. Others working on analagous lines may display brilliant generalizations in departments of thought, and of their conclusions we are permitted to avail ourselves fully. No one has given us the breadth, the comprehensiveness of view offered in the first volume of Sajous's book, "The Principles of Medicine," which includes a careful critical review of the prevailing doctrines concerning the nature of vital processes, the physiologic chemistry of cellular metabolism, and the avenues of distribution of oxygen, tissue respiration, etc. Finding certain vital points unclear, often in chaos, he was brought to realize that " the adrenals could be considered the key, to not only tissue respiration, but also to the functions of all organs called the 'ductless glands;' also, that those organs, more commonly known and constantly discussed, such as the heart, lungs, liver, etc., are subsidiary structures, instruments in a measure of the 'ductless glands' and destined to fulfill the mandates of the latter" (Sajous). If this view should prove to be correct it would change our customary methods of interpreting the phenomena of life and disease; in short, we should at once possess a different and probably a simpler and more efficient key to our most obscure problems. Whereupon he set himself the herculean task of reviewing the whole field of literature, both medical and all those branches of science bearing directly on its problems—embryology, biology, physics, chemistry, and the like. He is peculiarly fitted to do the work because primarily educated with especial thoroughness, equipped by training in physiologic experimentation, wherein he taught for years; he also has been compelled to survey the whole realm of medical literature since 1888 in preparing his "Annual of the Medical Sciences." Thus he achieved a concept to the elaboration of which he has given his undivided attention, and has evolved a philosophic presentation based upon the conclusions of foremost research workers and clinical observers. Upon their findings he has steadily and carefully built up his argument. This has been before the public for three years, subject to the criticism of all. Whatever may be said of his conclusions will involve the data and opinion of these others. Whereas, there are in the work many original and endless novel observations, there is nothing iconoclastic. Moreover, leaving out of account the originality of the concept there can be no two opinions as to the practical value of *the simplification of the fundamentals* thus presented. No one can read this first volume without obtaining a clearer insight into vexing dubiosities, a stimulation of thought, and many practical working axioms. The second volume soon to go to press will contain a critical revision of the arguments and practical applications of the conclusions to clinical medicine, to the everyday needs of the clinician.

J. MADISON TAYLOR,*

Cyclopædia of Current Literature.

ABDOMINAL PAIN FROM ADHESIONS.

Abdominal pains from adhesions have little conformity; they are sometimes continuous, sometimes colicky, or appear only from some traumatic action, or change in position of the patient. Reflex manifestations, such as nausea, hiccough, vomiting, anorexia, are common. The pain is often localized at one spot and here there is sometimes a circumscribed pain on pressure. A characteristic point is the fact that pain may become lessened or diminished by certain muscular movements or positions of the body. Another peculiarity of these pains is that they are proportionate in intensity to the extent of the adhesions. As determined by the experiments of Lennander on the sensitiveness of various parts of the peritoneum, only those adhesions cause pain which are inserted on the parietal peritoneum and are stretched or pulled upon. In stomach and intestinal adhesions pain is frequently caused by peristalsis, for which reason the pain increases in intensity after the ingestion of food.

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According to site, the various disturbances due to adhesions may be classified into the gastric, intestinal, and pelvic forms. The gastric forms are more frequently due to ulcer, cholelithiasis, traumatism, and carcinoma ventriculi. The pains may radiate to the breast or back; in some cases they depend on the ingestion of food, while at other times they are produced by mechanical shock or change of position. Rosenheim's diagnostic indications for the presence of adhesions are extensive and of extreme sensitiveness when pressure is exercised over the epigastrium, and especially pain shooting out from the right over the border of the stomach. Those on the left side give rise to severe pain which can be produced deep down when the lower border of the thorax is somewhat briskly pulled upwards. Even in adhesions of the posterior gastric wall pain is occasionally elicited by pressure over the first and second lumbar vertebræ.

The pain resulting from intestinal adhesion is usually exhibited in the form of colic. Tumors, ulceration, appendicitis, and laparotomy are the usual causes of these adhesions.

The pelvic forms are best known and give a variety of symptoms due to the presence of neighboring organs. Pain at stool or at micturition or during menses are characteristic of perimetritic adhesions. Straining, walking, changes in position, and even coitus are often causes of pain. A characteristic group of symptoms from adhesions are found in the "typical peritoneal adhesion" of Gersuny. This consists in a bandlet of adhesion on the sigmoid flexure which causes this organ to be fixed laterally. Besides, there usually exists adhesions of the appendix, as well as delicate ones running between the uterus, the ovaries, tubes, rectum, and peritoneum of the pelvis. These patients complain of pain on both sides of the lower abdominal region, McBurney's point is sensitive to pressure, and there is another point lying symmetrically on the left. These pains are never relieved by medical treatment. The treatment is purely surgical. In the pelvic form only may massage be efficient. C. G. Cumston (Albany Medical Annals, May, 1905).

AMENORRHŒA AND SYSTEMIC DISEASE.

It is usually considered that amenorrhœa, especially if it asserts itself after menstruation has once been thoroughly established, is due to some affection of the genital tract. As a matter of fact, however, the cessation is more likely to be the consequence of some systemic disease. The cessation of the menses in young women may be the first signs of tuberculosis, when there is otherwise little general disturbance of the health. As a matter of fact, menstruation and the menstrual period in women present conditions, modifications of which in various ways point more often to an active tuberculous process in the system than almost any other set of symptoms. Recently it has been noted that chlorosis is reported much less frequently than used to be the case, and there would seem to be a lessening of the prevalence of this blood affection in America. It has been suggested, however, that the apparent diminution of chlorosis is really due to the earlier recognition of tuberculosis than formerly. The two affections present a similar blood-picture at the beginning, and the treatment—fresh air and abundant diet, with care of the bowels—is the same for both. It is more favorable to find tuberculosis present than severe chlorosis, since genuine cases of chlorosis are likely to be associated with defects in the blood-making organs, or with abnormally small size of the heart and arteries, conditions which are hopeless of treatment.

Certain nutritional disturbances consequent on a marked change in the habits of life of the individual are often followed by a cessation of the menses. This is especially true when young women move from the country into the city, and as a consequence have much less outdoor air than before, and usually, also, much less nutritious food. Most immigrants presents a period during the first year of their sojourn in America during which their menses are irregular, if not entirely absent. This, too, would seem to be a result of the disturbance of the blood-making function, consequent on a lessened amount of fresh air. Sir Andrew Clarke used to insist, however, that chlorotic conditions, associated with amenorrhœa, are more often the result of chronic constipation or of insufficient evacuation of the bowels—two quite distinct conditions—than of any other single cause. Certain it is that most of the country girls who come to the city, as well as most of the foreigners who come to this country, are apt to suffer for a time from irregularity of the bowels, and treatment of this symptom does more to bring about a return to their normal condition than any more direct remedial measures that may be considered indicated for the menstrual disturbance.

In quite recent years it has come to be realized that many of the serious nervous affections have amenorrhœa as one of their preliminary or very early symptoms. This is especially true of affections of the ductless glands. When there is lack of the thyroid substance in the system, as occurs during myxœdema, amenorrhœa is almost the rule. In a few cases of exophthalmic goiter associated with a distinct tendency to obesity during the years between fifteen and twenty, menstruation is often scanty or is absent entirely. As a rule, during exophthalmic goiter, however, there is an increase of the menstrual flow. It is said that the cases marked by amenorrhœa are usually amenable to treatment by thyroid extract. The first symptom of Addison's disease in young women is likely to be a suppression of menstruation. The lowered blood-pressure consequent on the absence of the internal secretion of the suprarenal bodies somehow affects the function of the uterine mucosa so as to prevent the usual hæmorrhagic exudation.

The disturbance of the function of the pituitary body associated with the enlargement of the face and the extremities, that eventually gives the clinical picture of acromegaly, is likely to have as one of its first symptoms the absence of menstruation. This occurs at a time when there are but very few signs of the disease that is developing. A certain amount of coarsening of the features may have been noticed, but even friends are not likely to consider this as evidence of a pathologic condition.

Sometimes the menses are absent for several months before any pathognomonic signs of the serious nervous disease that is at work can be recognized. Amenorrhœa associated with very severe headaches for which treatment is of little avail, especially if there is also some disturbance of vision, or if there is vomiting without cause, must be considered suspicious, and if the features of the patient are heavier than normal, then the development of a tumor of the hypophysis must be considered as one of the possibilities in the case. Editorial (Journal of the American Medical Association, June 10, 1905).

AMŒBAS INFECTING THE HUMAN INTESTINE.

The intestine of man may be infected with two varieties of amœbas, one pathogenic *(Entamœba dysenteriæ)*, and the other non-pathogenic *(Entamœba coli)*. *Entamœba coli*, the non-pathogenic variety, is found in 65 per cent. of the healthy individuals studied, and in 50 per cent. of individuals suffering from diseases other than dysentery, if a saline cathartic has been administered. These organisms can be easily distinguished in both fresh and stained specimens. They differ widely in their method of reproduction, and this is the most important method of distinguishing them.

Entamœba dysenteriæ, whether fed in milk or injected through the rectum, produces in kittens the typic lesions of amœbic dysentery as observed in man. In kittens, *Entamœba coli*, whether fed in milk or injected through the rectum, is absolutely harmless. Neither feeding experiments nor rectal injections of fæcal material or the bacteria occurring in such material produce any of the lesions of amœbic dysentery, unless *Entamœba dysenteriæ* is present. C. F. Craig (American Medicine, June 10, 1905).

ANGINA PECTORIS AND PSEUDO-ANGINA.

Angina pectoris is defined by the author as pain in the cardiac region, chiefly behind the sternum, with radiation, most frequently down the inner aspect of the left arm to the elbow or to the hand. The pain is usually accompanied by a sensation of impending death, and the distinctive characteristic of true angina is that it is induced by exertion, more easily soon after food. Next to exertion in provoking an attack comes excitement. The effect on the circulation is increase of the blood-pressure in the arterial system—this is the determining antecedent. The attacks are usually brief, subsiding with the cessation of exertion or with the inhalation of amyl nitrite, etc. Sooner or later sudden death occurs during, or at the onset of a paroxysm. But the pain may last for hours. During the paroxysm the one condition that seems to be always present is contraction of the peripheral arterioles. The pulse remains steady or becomes irregular, but rarely rapid. The most constant postmortem condition is more or less occlusion of the coronary arteries from a calcareous or atheromatous or sclerosed condition of these vessels with perhaps thrombosis. As a consequence of the obstruction to the blood supply, general or local degeneration of the walls of the heart is usually produced.

As regards the causation, the author holds that the condition of the heart walls is the dominant factor. Speaking generally, in all cases in which the attacks come on chiefly during repose, however closely they conform to true angina, the presumption is that they are spurious, false, or pseudo-angina. The cases which most closely simulate true angina are those in which there is dilatation of the stomach. True angina is established when the coronary arteries are implicated. Mitral disease does not give rise to angina, nor does aortic disease of rheumatic origin. In acute aortitis, which is rare, there may be frequent anginoid attacks while the patient is lying in bed, if the mouths of the coronary arteries are blocked. In many cases of angina general arteriosclerosis is present, but the angina may manifest itself in a very early stage. The cases in which the prognosis is most unfavorable, and in which least can be done for the patient, are those in which the physical signs are negative. The treatment resolves itself into that of high arterial tension. Such high tension is due to toxins in the blood, and these must be prevented from forming, and eliminated. The diet should be simplified, the exercise regulated and supplemented by massage, and elimination promoted by the use of water and the alkaline salts. Mercurial aperients and iodides definitely reduce arterial tension, and form the basis of the medicinal treatment. The direct vascular relaxants, amyl nitrite, etc., are invaluable for the relief of the paroxysms, but their influence is, of course, brief. Dilatation of the stomach may in cases of angina or heart disease precipitate death. W. H. Broadbent (Lancet, May 27, 1905).

BLOOD-PRESSURE AND THE POSITION OF THE BODY.

Two factors which cause lowering of the blood-pressure when a person changes from the lying to the sitting or the erect position are the influence of gravity and the anæmia of the brain produced by this change of position. Gravity favors the circulation of the blood in most regions of the body when the patient is standing up, and thus favors the lowering of the blood-pressure. In healthy persons the vasoconstriction occurring in sitting up is not always marked enough to counteract the influence of the anæmia, and thus the blood-pressure is slightly lowered in the sitting position as compared to the prone or supine position. In debilitated persons, in neurasthenics, in certain forms of cardiac neurosis, in feeble persons with cardiac disease, in whom the vasal tonicity is diminished, the vasoconstriction is less marked, and the lowering of blood-pressure on sitting up is more prominent. At the same time these persons show a dicrotic pulse in the sitting or standing position, which is due, according to Frey, to an increase in the frequency of the heart beats. On the other hand, in patients with high tension pulse, such as nephritics, in arteriosclerosis, in aortic insufficiency, etc., the pressure is not altered by sitting up, or standing, because the vasoconstriction is so great that it counteracts any tendency of gravity to lower the pressure. In such patients, therefore, the blood-pressure is stable in either position. An interesting fact is, however, that the blood-pressure is also stable in compensated heart disease, in which vasoconstriction is sufficient to counteract any other influence lowering the pressure, when the patient sits or stands after lying down. Morphine acts well in cardiac asthma, because it diminishes the vasoconstriction and lowers the blood-pressure, contrary to the statements found in some text-books. It must be given, however, in small doses. C. Gennari (Riforma Medica, April 15, 1905; New York

Medical Journal and Philadelphia Medical Journal, May 27, 1905).

BRIGHT'S DISEASE.

A radical distinction between Bright's disease and nephritis is made by the author. Nephritis is an inflammation of the kidneys; Bright's disease is a systemic affection that usually leads to nephritis, but does not invariably do so. The sequence of events which leads to Bright's disease may be stated thus: Intestinal putrefaction, absorption of toxic substances in such quantities as to overpower the liver and thus pass through it unchanged into the general circulation, rise in blood-pressure, due to such toxins. This sooner or later leads to cardio-vascular degeneration and at times nephritis. This sequence of events is Bright's disease.

Treatment should consist in combating its development at whatever stage it is encountered. Regarding specific lines of treatment, the surgical treatment of Bright's disease is mentioned only to be condemned. Acute nephritis is properly treated by starvation, but not chronic nephritis. As the nephritis of Bright's disease is the most chronic form of nephritis, starvation is irrational. A proper mixed diet which will furnish thirty calories per kilo of body weight is essential. Milk diet is undesirable. It contains albumins in excess, it is deficient in iron; it floods the heart and arteries with water, it dilutes too much the digestive fluids, it is monotonous. Abundant water drinking is injurious. The chief value of "sweating" depends on its power to deplete the system of water. To sweat a patient and at the same time to give him abundant water is irrational. The withdrawal of salt from the food has much in its favor, both theoretically and practically. A. C. Croftan (Journal of the American Medical Association, June 24, 1905).

CARBOLIC ACID GANGRENE.

The author cautions against the careless use of weak solutions of carbolic acid by physicians, pharmacists, and the general public. Constitutional disturbances and even death have resulted from its external use and in some cases gangrene has occurred in the part to which it has been applied. Strong solutions form a scab preventing penetration into the deeper tissues. When evaporation of a 1 or 2 per cent. solution is prevented, the skin becomes macerated, a numbness follows from the toxic effect on the nerves, the acid is absorbed into the deeper tissues coagulating the albumin, the vasomotor nerves are first irritated and then paralyzed, and there may be the same effect on the sensitive and trophic nerves. In treating the injury an alcoholic dressing may be tried with the hope that it may destroy any acid remaining in the partially dead tissue. When the disorganization is hopeless, amputation is the only measure. J. Herold (Medical News, July 1, 1905).

CARCINOMA OF THE STOMACH, DIAGNOSIS OF.

Attention is called to the fact that carcinoma of the stomach more frequently has a sudden onset than the gradual one which would be expected from its pathology. Vomiting is an important symptom, but is frequently absent, especially in tumors of either curvatures. Should vomiting in the course of time cease, it is due either to infiltration of the stomach walls, rendering them non-contractile, or to a breaking down of a neoplasm, obstructing the pylorus. Vomiting of *small* quantities of blood or coffee-ground material is a very important element in the diagnosis. Of special importance, however, is the presence of blood and pus in the *fasting* stomach. Pain is usually absent. Constipation, in the author's experience, has been more frequent than diarrhœa. The enlargement of the supra- or infra-clavicular glands of Virchow is sugestive, but may mean a cancer in parts of the body other than the stomach, or an associated tuberculosis. Another point to be remembered is that cancer of the lesser curvature is apt to cause pleural irritation. The absence of HCl is suggestive, but not by any means conclusive. The writer thinks highly of the Gucinski and Solomon methods of diagnosis. More important even than the absence of HCl is perhaps the presence of lactic acid. Sarcinæ are only an indication of stomach stagnation. Of course the examination microscopically of small shreds of tissue in the vomitus or stomach washing is the only exact method of diagnosis. Ewald (Chicago Clinical Review, May, 1905).

CONSTIPATION, SPASTIC, TREATMENT OF.

The author states that while it is true that in most cases of constipation the older view that the condition is due to atony of the intestine holds good, it has of late years been recognized that there is another type of the disease depending upon an exactly opposite state of affairs, in which the gut is in a state of spastic contraction. The proportion of such cases is not small, and the author estimates that at least 25 per cent. of the cases of constipation in women belong to this variety. It is important to recognize it, as the treatment of constipation due to spasm is naturally very different from that of constipation dependent on atony, but the diagnosis is often difficult or impossible. The patients are usually neurasthenic or hysteric individuals, who may exhibit spasm in other regions of the body, such as cardiospasm, pharyngeal spasm, etc. The intestinal spasm is not continuous, and gives rise to sensations that may range merely from a feeling of discomfort to positive colics. The contracted knots of the intestine may be palpable as tender sausage-shaped masses, and rectal examination may reveal a spastic condition of the sphincters. The fæces sometimes assume the characteristic ribbon or lead-pencil shape.

The treatment comprises the avoidance of all irritation of the intestine, especially massage, and the use of soothing and relaxing measures, such as warm baths, hot applications to the abdomen, warm oil enemas, belladonna, non-irritating, gruel-like diet, and rectal bougies. A. Albu (Medical Record, July 1, 1905).

CONSUMPTION, TREATMENT OF.

It has been learned by bitter experience that one must practically ignore the bacillus in the treatment of the consumptive, and that the same point of view is being arrived at in regard to the lungs. Among the reasons for letting the lungs alone in treatment is the fact that very few remedial measures at command have any specific action whatever on the lungs, and it is being more and more clearly recognized that consumption is not, properly speaking, a disease of the lungs, but is merely a local (pulmonary) expression of a disease which involves the entire system. There are no tonics or alteratives which improve the nutrition of the lungs, and even the expectorant drugs have been proved to be lacking in the virtues formerly ascribed to them. Sprays, etc., are ineffectual in reaching the bronchi, and in most cases the so-called pulmonary gymnastics and exercises serve simply to drive the infectious material deeper into the hitherto uninvaded areas of the lungs. The author has already shown that the chest of the consumptive is round instead of flat, and that exercises intended to develop the chest as such do harm instead of good. Bodily exercise of any kind is now believed to be distinctly injurious, and absolute rest is indicated in any case in which the afternoon temperature rises above 100° F. Researches by Robin and Binet made over four years ago on the actual gaseous interchange in consumptives have shown that the tuberculous patient consumes a much greater amount of oxygen and gives off more carbon dioxide in proportion to his body-weight than the normal individual. In short, it would appear highly probable that the tuberculous patient is to be regarded in the light of one who is pouring nearly half the heat of the fuel which is burned in his body furnace up the chimney, in the form of smoke; that the food which he takes, instead of being assimilated and decomposed by anaerobic processes in the body cells, is burned in the blood and in the lungs. Any means, therefore, which will tend, so to speak, to clog the throat of his chimney and prevent this fatal escape of heat and energy, whether by drugs like creosote, iodoform, cod-liver-oil, and arsenic, or by pouring in an enormous quantity of food rich in heat value, will tend to restore the balance of gaseous interchange and enable him to return to the normal. W. Hutchinson (Medical Record, April 29, 1905).

DIARRHŒA, CHRONIC: TREATMENT.

Diarrhœa being a symptom, the cause, which may be mechanical, nervous or hæmic, always should be ascertained. The treatment of the mechanical forms of diarrhœa is based primarily on removing the cause of the irritation. This is accomplished by freeing the alimentary tract from all substances likely to cause increased peristalsis. This, in the dyspeptic form of mechanical irritation, is accomplished by a full dose of castor-oil. If there is proteid indigestion, the process can be checked by resorcin, 6 grains, four times daily, to which 20 minims of tincture of nux vomica should be added if there is diminished motor function of the stomach. After a few days 3 drops of strong nitrohydrochloric acid or 10 drops of hydrochloric acid with $^1/_{20}$ grain of strychnine sulphate, should be given in the midst of each meal. In amylaceous indigestion, thorough mastication of starchy food, limitation of fluids with their ingestion, and the administration of diastase, in 15-grain doses, an hour after meals, will generally correct the difficulty. The use of sodium bicarbonate is considered improper by the author, in all gastric and in most intestinal indigestions. Magnesia ponderosa in 10-grain doses after meals meets all indications. If bile pigment is present in the stools, a combination of salicylic acid, 6 grains, with the same amount of acid sodium oleate, with 4 grains of phenolphthalein and $^1/_2$ grain of menthol, may be given once daily, for several days. Fæcal impactions are best relieved by softening them by quart injections of warmed olive-oil, or 1-drachm doses of arsenic-free sodium phosphate twice daily; $^1/_{100}$ grain physostigmin salicylate three times daily, to enable the intestinal muscle to recover its tone. Opium is only admissible when the alimentary canal has been thoroughly emptied, to check excessive peristalsis. It should be given hypodermically, as morphine, in substantial doses, and not repeated. A prescription for opium, or any of its preparations or alkaloids, should never be trusted to nervous patients. There is too great danger of habit formation. The tannin preparations are sometimes useful by temporarily inhibiting the action of the bacteria and their toxins. Bismuth naptolate, bismuth tribromophenolate, and bismuth tetraiodophenolphthaleinate are more effective. R. W. Wilcox (American Medicine, June 10, 1905).

DIARRHŒA IN CHILDREN, TREATMENT OF.

Appropriate treatment at its inception arrests diarrhœa in children at once, and yet it registers more deaths than all the contagious exanthemas combined. To prevent a local affection becoming a constitutional infection the fermenting food must be quickly and radically ejected by castor-oil, and this must be followed by a period of absolute rest, in which nothing passes through the digestive tract but water from one to several days, according to the severity of the case. In young infants, hot water from a bottle is preferable. Some infants and most older children prefer cold water. From three to five drops of very hot water from a dropper on the tongue every 15 minutes is at times magical in checking vomiting. The auspicious moment for food having arrived, milk should be given with the proteid content minimized. The food must be of low proteid until cool weather. The mortality in young infants with diarrhœa is principally due to the use of cereals, in older children to animal broths. The vegetable proteïd cannot be utilized, the animal extractives stimulate metabolism, both result in starvation. Cereals are indispensable to the treatment of diarrhœa in the second year. Those of most value are barley, imperial granum, arrow-root, rice, cream of wheat. They must be cooked with water, never with milk. In subacute and chronic cases, the temporary use of condensed milk is strongly recommended. The castor-oil may be supplemented with irrigation on the first day, but repeated irrigations are exhausting and seldom advisable. J. E. Winters (Medical News, July 15, 1905).

DYSPEPSIA, DIETETIC TREATMENT OF.

Two groups of dyspepsia cases are considered by the author: (1) Those in which there is organic lesion of the stomach; (2) purely functional cases. Digestible food for either group means that which is easily dissolved. The secretion of gastric juice is influenced by the chemical constituents of the meal and by the psychical condition of the patient. Of the organic diseases, ulcer, dilatation, and acute and chronic gastritis are considered. In ulcer, rest and unirritating food in small quantities are indicated. In dilatation, the meals should be small, fermenting substances should be avoided, and the object should be to supply food which can be readily passed into the intestine. In gastritis, rest and unirritating food are again the indications. In the functional dyspepsias there may be excess of acid, deficiency of acid with impaired motility, or flatulency. For the acid dyspepsia the author advises such foods as are most capable of absorbing and fixing hydrochloric acid, that is, a diet rich in proteids. Fats may also be taken freely. If the acid production is excessive, milk alone may be indicated. If the acid secretion is deficient, soups, salts, alcohol, and condiments should be taken freely, while proteids should be avoided. In the case in which flatulency is the chief symptom, fermenting substances must be avoided, and the food should be as dry as possible. Hot water may be taken freely. Hutchison (Practitioner, May, 1905).

EXOPHTHALMIC GOITER, NEW OCULAR SYMPTOMS OF.

In the Gazette Médicale de Nantes for May 20th, M. Teillais recounts having met with three cases of exophthalmic goiter in which a deep brown pigmentation of the cutaneous surface of the eyelids was noticeable. In the first instance he was disposed to regard the phenomenon as accidental, but the second and third examples led him to look upon the pigmentation as intimately connected with the cause of the disease. According to his observations, the brown color is diffused evenly over the lids, being bounded above by the eyebrow and below by the inferior orbito-palpebral furrow. The conjunctiva is not pigmented. The effect of the pigmentation is to heighten the apparent extent of the exophthalmia and to intensify the fixity of gaze observed in the subjects of the disease.

This pigmentation, though it has been observed by others, is not sufficiently common to be of much diagnostic value, but it does seem to coincide with an unusual activity of the morbid process that lies at the root of the trouble, for it may accompany the onset of the manifestations and then disappear, or it may come on in a late recrudescence. It is not always uniform, Schroetter having observed a case in which irregularity of its distribution was a feature, accompanied with changes in the subcutaneous tissue, both of which phenomena he attributed to an anomaly of the secretory action of the thyroid gland. Teillais is inclined to accept the theory that exophthalmic goiter is due to overaction of the thyroid, while myxœdema depends on defective action or absence of the gland, and he cites in support of this view the temporary exophthalmia that sometimes results from excessive thyroid medication. Editorial (New York Medical Journal and Philadelphia Medical Journal, June 10, 1905).

EYE-STRAIN.

By way of establishing a control, the writer questioned, regarding headache, 100 healthy individuals with sight, and 42 patients were examined who were either partially blind (whether the blindness was acquired or congenital), or who suffered from acquired blindness coming on at an age after the habit of fixation and convergence was well established. The third class examined contained individuals totally blind since infancy. From a study of these cases, the following conclusions were drawn: Among individuals totally blind since infancy, 66 per cent. were free from tendency to headache, as contrasted with 31 per cent. of those having sight, and 29 per cent. of those with partial or with acquired blindness. If these figures should prove constant, the inference would seem jusifiable that half the headaches in health are due to eye-strain. The headache, when present among those totally blind since infancy, partook sufficiently often of the migrainoid character to preclude the supposition that all migraine is due to eye-strain. The results of this study would indicate that while migraine and migrainoid headaches have a constitutional basis, and while other factors than eye-strain may act as exciting causes, still, eye-strain is one of the most, if not the most, important of these exciting causes, and steps for its relief are imperative.

In no case has correction of refraction been given a thorough trial until *(a)* the glasses are properly centered, *(b)* their continued readjustment is practiced, *(c)* the patient looks as much as possible through their centers instead of from side to side, *(d)* efforts are avoided at straining the eyes to see distant objects with the glasses, *(e)* spectacles instead of eye-glasses are used, and *(f)* the use of spectacles is constant, not intermittent. The constitutional headache of the deviate is probably allied to the headache of "brain fag," but is out of all proportion to the sources of fag. Little can here be expected of spectacles.

In the proportion in which obsessive tendencies and other signs of constitutional peculiarity accompany errors of refraction, efforts at the correction of refraction will prove unavailing for the relief of nervous symptoms. G. L. Walton (Boston Medical and Surgical Journal, June 22, 1905).

FATIGUE, ALBUMINURIA AND GLYCOSURIA FROM.

The author has made observations and urinary examinations of eight men, runners of a race of 26 kilometers, both before and after the race, and gives the results of his observations. Four of the contestants examined were soldiers and four gymnasts. The author ascertained that before the race they were absolutely sound and healthy, and that examination of the urine showed the kidneys to be in a normal condition. The course was over an ordinary road, with hills and hollows; the day was cold and humid; one-half the course was with and one-half against the wind. The race was run in from one hour and fifty-four minutes to two hours and forty-five minutes. The first part of the race was run easily, without appearance of fatigue, the second half with evident painful muscular contractions, ending in exhaustion. After the race some showed transient excitations, others absolute exhaustion, but all were recovered in three hours. The urine examined was for less than three hours. There was no relation between the amounts of albumin and sugar eliminated by each individual; there was no relation between the albumin and the amount of sediment for each individual; the amount of urine varied greatly; the amount bore no relation to the abnormal constituents; in two cases a large amount of albumin was present with a low specific gravity, and the amount of total solids was very low in those individuals who were exhausted and their pulses were very frequent. Seven individuals had albumin in the urine; four had blood; hyaline, granular, and epithelial casts were present in some cases, and sugar in all cases. These observations show more albumin than is normally present from simple fatigue, and indicate a new form of glycosuria. Eight days after the race all had returned to a normal condition. The author believes the albumin to have been due to complex actions of the organism, the results of prolonged fatigue. One element is the irritation by poisons arising from muscular action. There is also a disturbance of circulation, and there might be a reflex influence from nervous disturbance due to excitement. The glycosuria was due to stimulation of the glycosuric center in the bulbar region of the medulla, by the excitement of the race. Guglielmo Gobbi (Medical Record, May 27, 1905).

FEMORAL HERNIA, NEW RADICAL OPERATION FOR.

The author describes a new myoplastic operation applicable to large herniæ, small ruptures being readily cured by any of the recognized methods. The sartorius sheath is opened longitudinally after the hernia has been reduced, the sac tied and ablated high up, and the saphenous vein removed. The sartorius muscle is cut across in the middle of the thigh and pushed through an opening in its sheath, across the great vessels, and pulled into the hernial canal, where it is attached with catgut sutures to the pectineal fascia, Poupart's, Gimbernat's, and Cowper's ligaments. Additional sutures through Poupart's ligament, the sartorius and the pectineal fascia bury the muscle stump within the canal. A triangular fascia flap is turned upward, covering the hernial region. Two cases were thus operated upon. The second case died twenty-five days later from an accidental erysipelas. At autopsy an excellent anatomical closure of the canal was found. E. A. Pólya (Zentralblatt für Chirurgie, Nu. 18, 1905; American Journal of Surgery, July, 1905).

FRACTURE OF THE CARPAL SCAPHOID.

"Sprains" of the wrist which do not promptly recover are in many cases fractures or dislocations of the carpal bones. The large majority of such carpal injuries are either simple fractures of the scaphoid or anterior dislocations of the semilunar bone. These two injuries are frequently combined, and in such cases the proximal fragment of the scaphoid is usually dislocated forward with the semilunar.

Simple fracture of the scaphoid gives a definite clinical picture, and may be recognized even without the x-ray by the association of the following symptoms, viz., *(a)* the history of a fall on the extended hand; *(b)* localized swelling in the radial half of the wrist-joint; *(c)* acute tenderness in the anatomical snuff-box when the hand is adducted; *(d)* limitation of extension by muscular spasm, the overcoming of which by force causes unbearable pain.

A broken scaphoid has little power of repair and appears capable of but slight callous formation. Fractures of the scaphoid which remain untreated or are treated by massage and active and passive motion, generally, if not always, remain ununited, and the original symptoms often persist for years with only slightly abated intensity. Cases of fracture of the scaphoid may unite if motion of the wrist is prevented during the first four weeks after the injury, but if by this time no union has occurred, future union is unlikely.

Excision of the proximal half of a fractured scaphoid gives a somewhat better result than conservative treatment. A posterior incision to the outer side of the tendons of the extensor communis digitorum gives an easy and safe access to the proximal half of the scaphoid. Passive motion of the wrist-joint and active motion of the fingers should be begun within a week after this operation.

The possibility of the existence of a bipartite scaphoid should be considered in interpreting x-rays of simple fracture of the scaphoid, but its occurrence must be very rare in comparison with fracture.

Anterior dislocation of the semilunar bone should be recognized clinically, even without the x-ray, by the association of the following symptoms, viz.: *(a)* The history of an injury of considerable violence to the extended or twisted wrist; *(b)* a silver-fork deformity, the posterior prominence of which corresponds with the head of the os magnum, and between which and the lower end of the radius is found a groove representing the position formerly occupied by the now anteriorly dislocated semilunar; *(c)* a tumor under the flexor tendons of the wrist just anterior to the lower end of the radius; *(d)* a shortened appearance of the palm as compared to the other hand; *(e)* stiffness of the partially flexed fingers, motion of which, either active or passive, is painful; *(f)* the persistence of the normal relation of the styloid processes of the ulna and radius and the existence of shortening of the distance from the radial styloid to the base of the first metacarpal.

Recent dislocations of the semilunar may be reduced with good result even after the fifth week by hyperextension followed by hyperflexion over the thumbs of an assistant held firmly in the flexure of the wrist on the semilunar.

Irreducible dislocations demand excision of the semilunar and the whole or a portion of the scaphoid if there is a coincident fracture of the latter. E. A. Codman and H. M. Chase (Annals of Surgery, June, 1905).

GASTRIC CANCER, PATHOLOGY OF.

Among the early signs of cancer the writer mentions the small clots, less than the head of a pin in size, generally merely little black points, which are found in the siphoned-out stomach content. These clots are frequently encountered in case of cancer of the pylorus, although they may require the microscope for their differentiation. Hæmorrhage in case of mere achylia gastrica is passed along out of the stomach too rapidly for the blood to form into clots. These clots have proved to be the very earliest symptom of cancer in the stomach, in the author's experience, preceding the discovery of lactic acid. The presence of Oppler's bacillus adds to the probability of cancer, as both require a long sojourn in the stomach. He has not found that the patients lose in weight, unless there is marked motor insufficiency with the cancer. A cancer of the lesser curvature may exist for months and years without appreciable loss in weight. With proper feeding, there may even be a gain in weight.

The author believes that it is almost impossible to distinguish between a benign ulcer and cancer of the pylorus, and the possibility of malignant transformation of the ulcer should not be forgotten. It is advisable to raise the general tone by dietetic and other measures before attempting any intervention on a pyloric cancer. If this is impossible, gastro-enterostomy should be done first, and the radical operation should follow after an interval for recuperation. The benefit is sometimes surprisingly fine, even when a radical operation is not practicable.

The diagnosis of cancer of the normally located lesser curvature is more difficult, and this form of malignant disease is the despair of surgery. Certain surgeons have reported comparatively long survivals after operations, but analysis of their cases will show that the survivals are no more than the average life expectancy of cancers of the lesser curvature when left untouched. Even at best, the definite cures are less than 1 per cent. Exploratory puncture has a high mortality, and is very depressing to the patient, generally convincing him of the absolute hopelessness of his condition. As a rule, it may be said that a good Congo reaction, with increased amount of stomach content retained, indicates that the radical removal of the neoplasm is still possible, and gastro-enterostomy is indicated. If the Congo reaction is negative, with increased amount of stomach content retained, then gastro-enterostomy to relieve the motor insufficiency is indicated. If the Congo reaction is negative, and if there is no retention of stomach content, and the lesser curvature is in the normal location, then any surgical interference is useless, except to relieve severe, urgent symptoms, when there is nothing to lose and everything to gain. Von Tabora (Deutsche Medizinische Wochenschrift, April 20, 1905; Journal of the American Medical Association, June 3, 1905).

GOUT, THE CARBON FACTOR IN: HYPERPYRÆMIA.

A new view on the nature of gout is presented by the author, his theory being that the retention in the body of carbonaceous material is largely concerned in the causation of the disease. Normally, there must be a systematic equilibrium between the carbonization of the blood from the body's carbon intake and its decarbonization, but the author believes that at times this balance may be disturbed and carbonaceous material accumulate in the blood to an ultraphysiologic or pathologic degree. To this hypothetic state he applies the term hyperpyræmia, and to the normal state, the term pyræmia. The exact nature of the hyperpyræmic load is undetermined, but we have a right to suppose that it is carbonaceous, and it certainly is not a glycæmia. The means by which hyperpyræmia may be dispersed are numerous, and include bilious attacks, migraine, gastralgia with anorexia, asthma, major epilepsy, and acute articular gout. Some of these operate through increased expenditure, others through restricting the intake, and their action is called by the author, carbonization. In order to prove that acute articular gout depends upon hyperpyræmia, the author draws upon evidence obtained by a consideration of the action in gout of such factors as the dietetic treatment, exercise, temperature, fat formation, plumbism, hæmorrhage, etc., and he then shows that the paroxysms represent an acarbonizing process. The mechanism of acute articular gout, according to this supposition, involves an interdependence between hyperpyræmia and uricæmia through which the kidneys at times become more active in excreting uric acid; that is, the renal disability depending on hyperpyræmia is terminated by acarbonization of the blood.

The author summarizes as follows his view of the steps in acute gout: 1. Hyperpyræmia from excess of carbonaceous income or deficiency of carbonaceous expenditure. 2. Progressive accumulation of uric acid in the blood: uricæmia. 3. Deposition of a portion of the uric acid in a joint. 4. Acute arthritis. 5. Pyrexia involving increased combustion. 6. Acarbonization of the blood. 7. Free renal elimination of uric acid retained in the blood. 8. Recovery by the blood of its solvent power for uric acid. 9. Reabsorption of the extravascular articular deposits of uric acid. Thus the acute gouty paroxysm may be regarded as a "pathologic function"—as a conservative reinforcement of inadequate physiologic function; and uric acid may be regarded as an essential instrument therein. Francis Hare (Medical Record, June 17, 1905).

HÆMORRHOIDS, EXTERNAL, PATHOLOGY OF.

The walls of the hæmorrhoidal veins must undergo some pathological alterations before an external hæmorrhoid can develop. These pathological changes being present, any undue pressure may cause an aneurismal dilatation of the vein. The internal coat of the vessel being altered, there is more tendency for coagulation of blood with the formation of a clot. The sexual activity of an individual increases the intra-venous pressure and favors the development of the sanguineous tumor. It is therefore a disease of adult life. The clot is always found in the diseased vessel and never in the connective tissue outside of the vessel. L. J. Krouse (Lancet-Clinic, June 24, 1905).

HAY FEVER, MASSAGE OF THE NOSE IN.

The author reports that he has absolutely cured eight hay fever victims by massage of the mucous lining of the nose. By this means he was able not only to cure an existing attack, but to prevent its recurrence in following seasons. The sensitive mucosa is first anæsthetized by swabbing it with a mixture of 1 part cocaine and .01 part adrenalin in 10 parts distilled water, using a cotton-wound nose sound for the purpose. The massage is done with this sound dipped in a 10 per cent. antiseptic oil. The author commences with slow, light stroking of the inferior turbinate, gradually increasing the rapidity and the pressure and passing to the middle turbinate, and thence, if possible, to the superior, returning over the mucosa of the septum. The massage is completed in two or three minutes at first and in from three to four as the patient becomes used to it. The procedure is repeated through each nostril every day, supplemented, if necessary, by instillation of diluted laudanum in the conjunctival sac. The writer thinks that it is more logical to remove the cause than to attempt to combat the established affection by antitoxin or otherwise. A. Denker (Münchener medizinische Wochenschrift, May 9, 1905).

HEART MUSCLE, FUNCTIONAL TEST FOR.

The earlier an insufficiency of the cardiac muscle is recognized, the better the prognosis of the case. According to the writer, insufficiency can be determined long before there are valvular changes, and the method described by him for this purpose is very easily carried out. He counts the patient's pulse and then holding him by elbow and wrist of flexed forearm, the patient is told to extend this as slowly as he possibly can, his attention being fixed on the movement; the right forearm is usually chosen as having a finer innervation. The patient must not contract his muscle, nor open the arm too quickly; nor must the physician aid the movement in the slightest. Flexion and extension are performed several times, and the pulse again counted. In the case of a normal heart the pulse-rate will be the same or slightly increased; in the case of an insufficiently strong muscle, the pulse-rate will be lowered, the pulse fuller and slower. In abnormally rapid hearts he has known the pulse to slow as much as 40 beats. The author considers this a certain means of determining at a very early date an insufficiency of the cardiac muscle. In cases of atheroma, diabetes, nicotine poisoning, etc., he has made a diagnosis of muscular insufficiency, no other symptom pointing to its existence; later developments justified the diagnosis. In fatty heart the result was always inconstant; in the hypertrophied heart of chronic nephritis the result was always negative, and the author believes such a muscle to be healthy, even though enlarged. M. Herz (Deutsche Medicinische Wochenschrift, Bd. xxxi, Nu. 6, 1905; American Medicine, June 3, 1905).

INFANTILE MARASMUS, THE FAT QUESTION IN ITS RELATION TO THE PRODUCTION AND CURE OF.

Food physically, chemically, or biologically unsuited to the needs of the delicate infantile organism is the most frequent instigator of the gastro-intestinal disturbances, which again are the usual forerunners of athrepsia infantum. In the overwhelming majority of instances, wasting and atrophy supervene in bottle-fed, that is, in artificially nourished children. A fat compound consisting of 10 per cent. of volatile acids cannot be a rational substitute for a fatty nutrient. The most important of these volatile fatty acids is butyric acid, whose very presence in the fat of human milk has been denied by some investigators. The more the fat output by the fæces approaches the minimum figure, the better the gastro-intestinal organs perform their work.

Milk fat, chemically speaking, is a compound of mixed glycerine esters. A certain degree of decomposition of the neutral milk fat into glycerine and fatty acid occurs already in the stomach. A reconversion into neutral fats must take place in the intestinal wall. The volatile acids appearing in the fæces are the result of carbohydrate fermentation in the intestines. Acetone of supposedly intestinal fermentation has not infrequently been accused of being the promotor of periodical vomiting. The volatile fatty acids as furnished by the fat of cow's milk are very decided irritants of the delicate intestinal mucosa of the infant. The fatty constituents of the milk furnish the source of the pathologic condition or prevent its amelioration.

The author advises the use of the fats furnished by the yolk of the hen's egg. Yolk-fat is the ideal fat for infants suffering from chronic gastro-intestinal disturbances. The writer mentions some of the factors which prompted him to substitute yolks for milk-fat in the treatment of under-nourished infants afflicted with gastro-intestinal disease. Yolk-fat, in its native state, in suitable amounts and admixture, is well borne and well liked by the majority of infants (idiosyncrasy is rather due to the white than to the yolk of the egg). The great absorbability of yolk-fat, the residue left by yolk-fat in the fæces, is smaller than that of any other animal fat. The fat-components of the yolk of the hen's egg, palmitin, stearin, and olein, yield no, or hardly any, volatile fatty acids, and consequently give no occasion to the production of the acetone bodies. The large amount of lecithin contained in the yolk tends to the restoration of nerve force, and acting as a general reconstituent ameliorates the cachectic condition; the occurrence in the yolk of a diastatic ferment assisting in the conversion of amyloid substances. The property of the yolk is to stimulate the digestive secretions.

The entire egg has been frequently employed by the pediatrist, the yolk alone but rarely. There is no consensus of opinion as regards the digestibility of the whole egg in the infantile alimentary tract. Some extol the egg as an important and readily digestible nutrient in early life, while others are absolutely opposed to its utilization. The total egg is badly borne by the average nursling. Constitutional aversion to eggs, in the author's opinion, is solely due to the white of the egg. He has never met with it when raw, fresh yolks alone were partaken of. The white of the egg, which exhibits the bulk of the latter's proteid substances, is apt to yield undue amounts of hydrogen sulphide and ammonia. This is particularly liable to occur in instances of retarded digestion of whatever causation. The yolks leave the stomach in a very short time and do not contain the elements giving rise to hydrogen sulphide to the degree that the latter could produce any untoward results. The author suggests the use of yolks only in such pathologic conditions which may lead to athrepsia infantum, and which are due to, or aggravated by, the fat constituents of the nourishment.

There are two essentials which must be followed when good shall result from the ingestion of yolks: First, the yolk-fat must completely replace the milk-fat. Second, the amount of yolk-fat, without being in excess, must be adequate; that is, it must conform to the caloric and nutritive demands of the organism.

By withholding the milk-fat from the nutriment, the eventual etiologic or aggravating factor of the underlying disease is removed, or a fat-compound which, in the specific instance, has demonstrated its inadequacy in supplying the systemic demands. Substituting for it yolk-fat, a fat-combination is furnished to the deteriorated or diseased infantile organism which does not yield butyric acid or its derivatives, and which it is able to anabolize in the great majority of instances. Untoward results obtained by yolks in the treatment of the under-nourished, and more especially of athrepsia infantum, in a great measure are due to the non-withdrawal from the nourishment of the mischievous milk-fat.

A marasmic infant, in spite of abundant milk-fat, may continue to decline. It is evident, therefore, that the child does not properly anabolize the fatty substances introduced by the milk-fat. When this is replaced by another fat-compound, as yolk, for instance, it is not the amount of the latter but its physico-chemical constitution and its absorbability which primarily count. All that seems necessary in the dietetic management of marasmic children is to start with a very small amount of yolk, probably a quarter of a teasponful for each feeding, and to very slowly increase it to the physiologic requirements of each individual case. The corresponding caloric and nutritive value of both fat compounds cannot be accurately calculated.

The overwhelming majority of cases of infantile marasmus occur in artificially-nourished children. The gastro-intestinal disturbances underlying infantile atrophy are very often due to the character of the food and not infrequently to its fatty contents. While the *quantity* of fat aliment has found frequent practical consideration, the *chemical character* of the fatty substances entering into the baby's nutriment have hardly ever been inquired into by the clinician.

The composition of the fat of cows' milk is greatly at variance with that of the fat of human milk, differing especially in its far greater contents of volatile fatty acids among which butyric acid is the most important. Butyric acid is the mother substance of the acetone bodies to the presence of which a number of disorders to which the infant is prone have been ascribed by various observers. Butyric, caproic, caprylic, and capric acids are contained in the fat of cows' milk in from six to eight times the amount in which they are present in that of human milk.

The infantile organism cannot cope successfully with the fat of cows' milk, even in a mere physical sense. This is evidenced by the decidedly smaller absorption of the fat-compound derived from cows' milk than from human milk. The occurrence in the fæces of absolutely and relatively larger amounts of fat of cows' milk is *prima facie* evidence of its more incomplete utilization by the youthful organism.

As the physical and chemical properties of the milk-fat are dependent upon the absolute and relative amount of lower and higher and uncombined fatty acids, it is evident that the vast discrepancy existing between the constitution of cows' milk-fat and mothers' milk-fat cannot be overcome by any possible modification of the former.

Apart from the butyric acid origin of the acetone bodies, the volatile fatty acids as furnished by the fat of cows' milk are decided irritants of the delicate intestinal mucosa of the infant. The ingestion of these acids is, therefore, the primary cause of many instances of gastro-intestinal irritation and disease followed by under-nutrition, bodily retrogression, and athrepsia infantum.

Alteration in the fat-supply as exercised to-day is almost without exception a quantitative one, consisting of reduction, suspension, and even increased supply of fat-aliment.

Withdrawal of milk-fat in hand-fed infants frequently results in cessation of the local disturbance. It is, however, obvious that the infant cannot exist for any length of time without fatty ingesta of some kind. Furthermore, the incipient marasmic condition cannot be relieved unless a sufficient amount of assimilable fats yielding but insignificant amounts of volatile fatty acids is added to the nutriment.

Yolk-fat seems to be the ideal fat for infants suffering from chronic gastro-intestinal disturbance together with latent or even pronounced athrepsia infantum. Yolks should be used only in those pathologic conditions which may lead to athrepsia infantum and in those which are due to, or aggravated, by the fat constituents of the nourishment.

There are two essentials which must be followed for good results from the ingestion of yolks, viz., the yolk-fat must completely replace the milk-fat, and the amount of yolk-fat, without being in excess, must be adequate, that is, it must conform to the caloric and nutritive demands of the organism. The electrical conductivity of skimmed milk plus physiological amounts of yolk-fat is probably somewhat greater than that of native milk. Heinrich Stern (Archives of Pediatrics, June, 1905).

INFERIOR TURBINATED BONE, DISORDERS OF.

Hypertrophy and deformities of the inferior turbinated bone may interfere with nasal respiration and also with drainage. They give rise to pressure symptoms and subsequently to mental depression, and further, prevent proper intranasal hygiene. True hypertrophy must not be confounded with congestion or inflammation.

Hypertrophic tissue and portions of the bone should be removed when symptoms and appearances indicate pressure, altered secretions, interference with drainage, and the normal functions of the nose. Escharotics should never be employed and the galvanic cautery is of doubtful efficiency. A clean cut by means of specially devised scissors through both soft tissue and bone is by far the best method for operation. The snare offers the best method for the removal of posterior hypertrophies.

The resultant wound should be protected by a thin layer of gauze, moistened with a 12 per cent. solution of aceto-tartrate of aluminum, to which may be added a few drops of weak adrenalin solution. W. C. Phillips (American Journal Medical Sciences, July, 1905).

INSECT STINGS.

The author relates about a dozen cases of stings followed by severe general symptoms, fatal in some instances. The symptoms involve the respiratory, digestive, nervous, and secretory systems, and are distinguished by the rapidity with which they develop and their intensity. The action of the poison of the hymenoptera is frequently more subtle and generally more rapid than that of snake or viper venom, which it resembles in many respects. Antivenin might be used if the symptoms did not develop with such rapidity. The most effectual treatment is by aiding nature to eliminate the poison through the sweat, urine, saliva, and fæces. Her efforts in this direction are plainly evident in the symptoms observed, and the physician should coöperate by administering diffusible stimulants, diuretics, sialagogues, and purgatives. Experimental and clinical experience seems to indicate that the kidneys are the chief emunctories concerned. Among the general symptoms cited in the cases described by the writer are œdema suggesting erysipelas, eruptions, syncope, nausea, vomiting, diarrhœa, and irregularities in the pulse.

Local treatment should be by the immediate application of lime water, salt or strong brine, supplemented by a hot aromatic drink containing some diffusible stimulant such as ether or peppermint, to favor the elimination of the venom through the skin and kidneys. Vinegar water or ammonia usually neutralizes bee stings. The little blister formed by the clear venom deposited by the insect should be carefully removed without extracting the sting beforehand and without the slightest pressure on the latter, as this would merely squeeze out more of the venom. Attempts to induce immunity by submitting to the stings of bees have been successful in some instances to a certain extent. P. Fabre (Bulletin de l'Académie de Médecine, Paris, year lxix, No. 21; Journal of the American Medical Association, July 1, 1905).

INTESTINAL PERISTALSIS.

The authors have studied the effects of various agents on the intestinal movements, confirming Ott's earlier findings that adrenalin arrests the pendulum movements and causes relaxation of the longitudinal musculature, and that splenic extract increases the peristaltic action both in frequency and force. Infusion of the pancreas was found to relax the muscles and slow the movements of the intestine, at the same time increasing the force of the contraction. Experiments were also made with other animal extracts, ovary, testes, parotid and mammary glands, pituitary, thyroid, brain, and spinal cord, but they had no marked effect on intestinal peristalsis. The thymus seemed occasionally to increase its force. Sodium citrate increased the force of the contraction, which was slowed, weakened, and made irregular by the addition of calcium chloride, thus agreeing with McCallum's observations. It is suggested, therefore, that calcium is indicated, in agreement with McCallum's and with Loeb's theories of the action of the calcium ions, in persistent diarrhœa of nervous and hysterical cases. A series of experiments were made testing the effects of various drugs, atropine, eserine, nicotine, muscarine, pilocarpine, strychnine, curare, morphine, etc., on intestinal peristalsis and also on their antagonistic action to each other, which are discussed in detail, especially their relations to the nervous supply of the intestine, and the conclusion is deduced that the automatic movements of the bowel are not myogenic, but are dependent, as shown by Magnus, on Auerbach's plexus. The action of certain organic bodies, bile, albumoses, peptones, leucine, tyrosine, was also tested; they all increased the force, and most of them also the frequency of the intestinal movements. It is evident, the authors remark, that the products of proteid digestion are active stimulants of peristalsis. A good digestion predisposes to regular evacuation of the bowels, and this accounts for the habitual constipation of dyspeptics. Isaac Ott and J. F. Ulman (Journal of the American Medical Association, June 17, 1905).

ISCHOCHYMIA, TREATMENT OF.

There are two ways of treating ischochymia: (1) Dietetic and medicinal measures (rectal alimentation, fluid diet, lavage of the stomach, bismuth, etc.); (2) operative procedures (gastro-enterostomy, pyloroplasty). These two methods of treatment do not antagonize but supplement one another. The indications for both are fairly well determined, where one ceases the other begins.

Since in by far the larger number of cases of ischochymia a stenosis of the pylorus is present, the ideal method of treatment would consist in forming a new passage for the exit of the chyme from the stomach. Yet surgical intervention ought not to be recommended immediately in every case, as a certain element of risk is still attached to this procedure. The mortality of gastro-enterostomy and pyloroplasty is rather high. It varies among different surgeons and in different countries between 5 per cent. and 20 per cent. If we assume 10 per cent. as the average (among the writer's own patients the mortality was much higher), we see that we have a mortality percentage that ought to be taken into consideration in advising an operation.

The indications for medical and surgical treatment of ischochymia may be placed as follows:—

1. Benign ischochymia requires, first, medical treatment; if this be unsuccessful, *i.e.*, if after a longer period of treatment the fasting stomach, on a fluid diet, is not empty, but contains food remnants, an operation is advisable.

2. Surgical intervention is also indicated in benign ischochymia which has developed subsequent to a condition of continuous hypersecretion of gastric juice (preceded by hæmorrhage or not).

3. Malignant ischochymia or one of dubious nature in which, however, a thickening of the pylorus is found, should also be treated surgically (gastro-enterostomy, and, if possible, resection of the pylorus).

Benign ischochymia should first be treated by dietetic and medicinal measures, because many patients with apparently grave cases of this kind frequently get well in this way; and second, because an operation is a procedure connected with a considerable amount of danger, and should be suggested only when absolutely necessary.

Those cases of ischochymia with preceding gastro-succorrhœa form an exception, and require operation sooner, because they are generally complicated with active ulcerated processes in the pyloric region, and because they are frequently accompanied by severe complications (perforations and severe hæmorrhages). The danger from operation in this variety of ischochymia is less than that from possible complications, therefore an operation is indicated.

As regards the third class of cases, referring to malignant ischochymia, operative procedures must be recommended, first, because, these cases grow progressively worse, and second, because a possibility of a radical cure (either by extirpation of the tumor or in consequence of the disappearance of the same after gastro-enterostomy), even if remote, is given. Max Einhorn (American Medicine, June 3, 1905).

LARYNGEAL PARALYSES AND THEIR DIAGNOSTIC VALUE.

In a knowledge of the appearance and of the causes of laryngeal paralyses may be found an important aid to diagnosis in many obscure cases. Many laryngeal palsies give rise to no symptoms whatever, and cannot be diagnosticated or even suspected without the use of the laryngoscope. In the common form — abductor paralysis — there need be no disturbance of vocalization. When abductor paralysis has occurred the affected cord lies in the middle line; during phonation the sound cord adducts to meet it and the larynx appears normal. But on inspiration the affected cord remains stationary, while the sound one is drawn outward and backward. The voice is not altered, but there is some dyspnœa on active exertion; in children this may be so severe as to necessitate tracheotomy. In bilateral paralysis the cords are drawn closer together on inspiration, and dyspnœa is a marked symptom. It is inspiratory and is accompanied by stridor. As severe paroxysmal exacerbations may occur at any time and prove fatal, tracheotomy should always be done as a precautionary measure. Phonation is good, but has a breathless character.

The lesion causing the paralysis may be situated (1) in the medulla; (2) at the base of the brain; (3) in the vagus; or (4) in the recurrent laryngeal nerve. In the first two classes neighboring nuclei are prone to be affected as well, so that there is usually concomitant paralysis of the soft palate, uvula, and pharynx. Persistent frequency of the pulse is an important sign of bulbar disease. Bulbar paralyses are frequently bilateral, tabes dorsalis being the commonest cause of such paralyses. Syphilitic nuclear disease, gummata at the base of the brain, and syphilitic pachymeningitis are also common causes of abductor paralysis. Disseminated sclerosis seldom produces paralysis. Of peripheral causes neuritis is a frequent factor; it may be toxic (lead, alcohol, or arsenic), or infective (diphtheria, typhoid, influenza, etc.). Paralysis from involvement of the vagus is usually due to compression of the nerve, from *(a)* aneurism; *(b)* enlarged glands, usually tuberculous; and *(c)* cancer of the œsophagus. Rarer causes are mediastinal growths, pulmonary tuberculosis, goiter, etc. Aneurism is the most frequent of all causes of laryngeal palsy, being the most often occurring. In addition there may be glottic spasm, and the peculiar "brassy" cough, which later becomes wheezing in character. Left vocal cord paralysis may be the earliest sign of aneurism. Tuberculosis causes paralysis either by pressure of bronchial or tracheal glands, or by involvement of the nerve in tuberculous infiltration at the apex of the lung. The association of laryngeal palsy with a thyroid tumor, though suspicious, is no conclusive proof of malignancy. Adductor palsies always affect the phonatory function. They are usually bilateral and are not due to organic disease of the nerve path, either to a neurosis (functional aphonia) or to local disease, such as laryngitis. Functional aphonia is a common manifestation of hysteria, but anything which makes the effort of phonation more difficult than usual (such as debility, thickening of the cords, or laryngeal catarrh), predisposes to this affection. It occurs in men as well as women; the onset is sudden, and so is the recovery. Paralysis is very seldom complete, and unilateral adductor paralysis is extremely rare. It is due to local interference with the muscles and in a few instances to toxic causes. H. Barwell (Lancet, June 3, 1905).

LOBAR PNEUMONIA, PROPHYLAXIS OF.

The prevalence of influenza during the last fifteen years has brought about an increased receptivity for and incidence of the pneumococcus infection. Certain degenerative lesions, especially of the cardio-vascular system and the kidneys, have shown an increased incidence during the last two decades; and these are found to be associated or antecedent conditions in the majority of cases of pneumonia; hence are probably potent, predisposing factors.

The indoor conditions during the cold season favor multiplication and propagation of the pneumococcus and at the same time tend to diminish resistance to infection by the specific organism. The aged are peculiarly susceptible to pneumococcus infection, hence their bodies should be kept as strong and healthy as possible, especially during the pneumonia season.

To overcome the predominating factors in individual predisposition, special attention must be paid to the subject of ventilation, to appropriate clothing, and the avoidance of agencies that cause degeneration of the heart, blood-vessel system, and kidneys, as alcohol, social excesses, an over-strenuous business or professional life, and the like.

The sputum is the principal source of infection and should be thoroughly disinfected so soon as it is expectorated, and then destroyed by burning. A large proportion of the general populace harbors the pneumococcus in the nasopharynx, and this is especially true in families and institutions in which cases of pneumonia have occurred; hence thorough cleanliness and systematic disinfection of these chambers should be carried out during the pneumonia season, more particularly in the case of persons more or less exposed to the virus of the disease. Means to prevent dust from accumulating and its daily removal from home and the city streets, are imperatively demanded. Public health authorities should be given full executive power to carry out rules and regulations relative to pneumonia looking to the prevention of its spread, as in the case of other infectious diseases; they should also carry on a campaign of public education. Measures of prophylaxis must accord with intelligent public opinion before they can be rendered wholly efficient either by municipal or private authority. J. M. Anders (Medical News, June 3, 1905).

MASTOIDITIS.

Patients suffering from acute otitis media should be confined to bed during the acute inflammatory stage.

Recurrent suppurative otitis media is usually the result of adenoid vegetation in the vault of the pharynx, plus infection. Chronic suppurative otitis media exists only as a result of incompetent or neglected treatment of the acute state. Grippe infection produces a large percentage of the serious complications of middle ear suppuration.

A chronic suppurative and necrotic process in the middle ear, because of its environment, calls for serious consideration. The practitioners of medicine should acquire sufficient skill to make an intelligent examination of the drum membrane, and sufficient familiarity with symptoms to diagnosticate the serious complications. Well-developed suppuration which has gone beyond the confines of the mastoid antrum and involves the mastoid cells in general calls for external operative interference.

In the treatment of chronic suppurative otitis media local measures should be exhausted before considering radical operative interference. Failure to cure chronic suppurative cases, especially when evidences of necrosis are present, should be followed by some form of operation. The Stacke and Schwartze-Stacke operations, while they are rather serious in nature and require marked skill, offer the best hope of permanent cure. In the consideration of both the mastoid operation and the radical operation for chronic suppurative otitis media, wise conservatism should guide the action of the surgeon. W. C. Phillips (American Journal of Surgery, July, 1905).

MESENTERIC GLANDS IN THEIR RELATION TO TUBERCULOSIS.

In all cases of active tuberculosis, and in almost all cases of inactive tuberculosis, the mesenteric glands are tuberculously infective. The mesenteric glands in these cases may or may not show gross evidence of tuberculosis or tubercle bacilli in spreads; the result is the same as far as the qualitative production of tuberculosis is concerned. In a certain percentage of cases showing no tuberculous lesions in any part of the body, these glands are tuberculously infective. In the present study the percentage was about 40. The tuberculous infectivity of the mesenteric glands is probably shared by the other groups of lymph nodes throughout the body. R. C. Rosenberger (American Journal Medical Sciences, July, 1905).

NASAL SEPTI, DEFLECTED, SUBMUCOUS RESECTION OF.

This operation consists essentially in a dissection away, from before backward, of the mucous membrane on both sides of the septum, perichondrium, etc., and resection of the deflected portion, excepting the upper part, from the roof of the nose. This is important, as the retention of this part of the septum is considered by Hajek as essential for the symmetry of the nose. In one of his cases the author purposely left small islands of cartilage to stiffen the new septum, and he thinks with advantage.

Submucous resection of deflected nasal septi can be performed under local anæsthesia with but a relatively small amount of pain. This operation offers the most certain results in all deflected septi, whether in the cartilage or bony septum, or both. The sagging back into the former pathologic position, as is often seen in other operations, notably by the method of Asch and by the use of the punch, cannot occur with this operation. The offending area is removed, and hence is not susceptible of recurrence.

The correction of this condition by an operation without the necessity of employing splints places it well in the foreground from a humanitarian point of view, for, splints are painful, do not always accomplish their purpose, and make the operation unpopular. Any operation which does away with their use can safely be accepted as a valuable step in advance.

The after-treatment with this operation has been cut down from four to six weeks by the old method, to two weeks at the most. It is painless, less apt to have sepsis, and with care, perforation can be avoided. It gives the most certain and enduring results, is not so hard to perform as it looks, and requires no special instruments beyond what are usually found in a rhinologist's armamentarium, except a Killian long-blade nasal speculum. F. W. Alter (Journal of the American Medical Association, July 1, 1905).

NERVOUS AND MENTAL DISEASES, RELATION OF THE GASTRO-INTESTINAL TRACT TO.

The writer discusses conditions favoring fermentation and the production of abnormal products. Ethylidenediamin, a ptomaine found in gastric liquids in dilatation of the stomach, will produce exophthalmos and some symptoms found in Graves's disease. Methyl guanidin resulting from putrefactive processes in the small intestine causes nervous irritability and tetanic convulsions. Stasis favors putrefaction. Among the ptomaines found in the colon after stasis are cadaverine and putrescine, which give the symptoms of muscarine poisoning. Indol given to animals causes cardiac and respiratory depression, clonic spasm, and reflex irritability. Small quantities taken daily for several weeks cause headache, colic, diarrhœa, unnatural mental activity, and a tendency to neurasthenia. Bile, when absorbed, produces a definite toxæmia. Large doses of choline cause nearly instantaneous death in cats and rabbits. Nerine, a derivative, causes dyspnœa, salivation, mydriasis, labored respiration, unconsciousness, and clonic convulsions. Muscarine causes convulsive seizures. All these substances produce epileptiform attacks. In many cases of nervous and mental diseases, derangement of the gastro-intestinal function may aggravate the original condition, creating a vicious circle. A thorough investigation should be made in each case. Carnivora are subject to convulsive seizures from dietetic disturbances, whereas herbivora are exempt. Red meats tend to aggravate nervous conditions, and in epilepsy and other nervous diseases are largely eliminated from the dietary. Some convulsive seizures in children come on a short time after the administration of improper food, others not for several hours, representing gastric and enteric types. Rickets, a factor in epilepsy, is often associated with dilatation of the stomach. W. H. Thompson has secured brilliant results in epilepsy from treatment of the gastro-intestinal tract. Even when degenerative brain changes have occurred, the convulsions may be lessened by appropriate treatment. Mental depression often accompanies toxæmia, and may result in depressive insanity. Among other symptoms of auto-infection are apathy, insomnia, somnolence, and inability to concentrate the attention. Mucous colic is one of the manifestations of Glenard's disease, and the neurasthenic condition is probably the result of auto-infection. The writer believes that in surgical procedures for dilatation there is a brilliant future for the relief of some nervous diseases. R. C. Kemp (Medical News, July 8, 1905).

OPHTHALMIA NEONATORUM.

Thorough cleansing of the vagina *before* rupture of the waters, where possible, is advised by the author, as a later cleansing may tend to carry some infection higher. The use of argyrol or protargol should be continued for three to six days in any suspected case as a prophylactic measure. The termination of labor with forceps is justified when the membranes are ruptured and the second stage is delayed in suspected cases. When once ophthalmia is developed, thorough vigorous treatment should be instituted, and no effort spared in having it carried out to the letter. Care should be taken not to produce a conjunctivitis either with strong antiseptics or rough handling of the lids. Even the semblance of traumatism should be avoided. C. T. Souther (Lancet-Clinic, July 1, 1905).

ORBITAL SARCOMA.

The difficulty in accurate diagnosis under certain conditions entirely justifies an exploratory excision with removal of a section of growth for microscopic study, said exploration likewise serving to determine the ramification of the tumor.

The brilliant results achieved by a number of accurate observers in the field of Roentgen ray therapy justify the immediate tentative application of the method before any radical operation is attempted. If unsuccessful in removal of the growth, the virulence of the latter will probably be decreased and the dangers of metastasis lessened. (Leonard.)

If the sarcoma is encapsulated, operative intervention without orbital evisceration promises a successful outcome. In view of the almost constant recurrences after orbital evisceration, the removal of the growth itself is regarded as sufficient unless the periosteum or bony wall is involved.

The encouraging results reported from the cataphoric sterilization of malignant growths in other parts of the body seem to warrant the utilization of this method in the orbit, due care being exercised as to strength of current used. (Massey.) Future experience must determine whether better results will be achieved by using this method for the original growth, or reserving it for recurrences *in loco*. If operation has been performed and the growth has recurred, we have at command these two valuable methods of attack. G. Oram Ring (New York Medical Journal and Philadelphia Medical Journal, June 10, 1905).

PERITONEUM, PHYSIOLOGY AND PATHOLOGY OF.

The ability of the peritoneum to protect itself has been exhaustively studied by the authors, on rabbits. About 10 cubic centimeters of a 2 per cent. solution of potassium iodide was injected directly into the peritoneum without previous incision. The results have convincingly demonstrated, the authors think, that moist eventration and rinsing is not only the best means of preventing, but also aids in curing peritonitis. The favorable effects were evident whether the peritoneum was normal or already inflamed.

In regard to leucocytosis and phagocytosis there did not seem to be much difference between irrigated and dry operations. Eventration cannot be done without an abundant emigration of leucocytes. They display at first an energetic phagocytosis, but this soon subsides and finally sinks considerably below normal.

The authors' experiments confirmed their former assertions in regard to the way in which increased peristalsis after administration of a little physostigmine hastens peritoneal absorption, and that sterile fluids injected into the peritoneum do not check absorption. In incipient peritonitis absorption proceeds more vigorously at first, but later becomes very sluggish. A moist laparotomy has much less disturbing effect on the process of absorption than dry laparotomies. In the latter there is venous hyperæmia and the peristalsis is arrested; this does not occur when the peritoneum is irrigated. Transudation in the abdominal cavity is not materially affected by a laparotomy. The active hyperæmia which accompanies the inflammation is the cause of the rapid absorption at first. The intensity of the inflammation depends on the virulence of the germs more than on all the other conditions combined.

In regard to the benefits of rinsing after laparotomy, the peritoneum of the rinsed animals was invariably found in much better condition than in the controls. Eighty-seven rabbits and guinea-pigs were infected with pus of a standard virulence, laparotomized after an interval of from ten minutes to ten hours, and the peritoneum was then rinsed without tamponing. The animals all died, some of them even earlier than the controls, but the peritoneum was always in a much better condition than in the controls. There was none of the turbid effusion nor fibrinous deposits on the intestines nor loose adhesions between them. Scarcely a trace of inflammatory changes could be detected. In a further series of ten experiments diphtheria toxin was injected into the peritoneum and it was then rinsed out. Twenty times the fatal dose could thus be injected and rinsed out again without the slightest symptoms, while all the controls died with the typical syndrome. P. Clairmont and H. Haberer (Archiv für klinische Chirurgie, Bd. lxxvi, Nu. 1 and 2; Journal of the American Medical Association, July 1, 1905).

PLACENTA PRÆVIA, CÆSAREAN SECTION FOR.

Cæsarean section for placenta prævia lowers the fœtal mortality 30 per cent. and raises the maternal death rate nearly three-fold. Approximately the life of the mother is taken to save the uncertain existence of one baby.

A rigid os is one of the rarest complications of placenta prævia. Undoubtedly most cases of so-called rigid os are simply instances of cervices unprepared for dilatation, or a misconception based on too brusque and rapid attempts to dilate or to extract. A true cicatricial cervix, and rigid cervices of old primiparæ, may offer an indication for Cæsarean section in placenta prævia.

Pelvic contractions are indications for Cæsarean section in the presence of a prævial hæmorrhage; the pelvic contraction, not the prævia, is the determining indication. The earlier the interruption of gestation, *cæteris paribus,* the more may pelvic deformity be disregarded. In general, the presence of a placenta prævia will not be recognized before hæmorrhages appear.

Cæsarean section for placenta prævia never will have so low a maternal mortality as when performed for a pelvic indication. Repeated examinations by the physician and his consultants must be made for diagnostic purposes; often a vaginal tampon must be introduced as a temporizing measure, at least until the woman may be transported to a hospital, or preparations made at home for the laparotomy. The acute anæmia and finally the anatomic conditions postpartum all render the operation a peculiarly dangerous one. Placenta prævia cases appropriate for Cæsarean section generally will demand the procedure irrespective of the fœtal condition, as the primal motive should be to save the mother Cæsarean section for placenta prævia should only be considered a *dernier ressort.* If an abdominal operation is forced on the obstetrician, he should remove the uterus as a prophylactic against hæmorrhage and infection. R. W. Holmes (Journal of the American Medical Association, May 20, 1905).

PLEURISY.

Regarding the pathology of pleurisy, the author maintains the following propositions: Apart from injuries, pleurisy is to be regarded as part of a condition that has generally begun in the respiratory tract, but sometimes in the pericardium (especially in rheumatic fever), and now and then in the peritoneum, and that the origin ought always to be carefully investigated. Empyema is a frequent result of lobar pneumonia and also of tubercle. Large non-purulent effusions are due to pneumomoccal or tuberculous affection. Tubercle reaches the pleura from the lung in most cases and in a few from the peritoneum. Diagnosis should take a wide survey of the origin of the disease and not be limited to the interpretation of physical signs.

As regards treatment, the author is in favor of letting out all large serous effusions and all empyemata, and in the latter case he favors more and more the method of resecting a piece of rib as procuring better drainage and therefore more speedy recovery. Another and more general principle of treatment is that the patient should be kept under observation till he may be considered free from the condition of which the pleurisy was the most prominent manifestation. Typhoid fever is almost the only acute disease in which patients are kept long enough under control. In rheumatic fever rest in bed in all cases for from three to four weeks after the temperature is normal would lead to a diminished percentage of permanent valvular disease, and it is only by a prolonged temperature chart that certainty can be arrived at as to the cessation of the endocarditis. In pleurisy, regulations as regards fresh air and diet followed out in all cases would often prevent the development of permanent tuberculosis later in life. N. Moore (Lancet, June 10, 1905).

PRURITUS ANI, CAUSE AND TREATMENT OF.

The writer has found in over 90 per cent. of cases of pruritus ani which he has examined, a shallow ulcer situated between the two sphincters. It has been more often in the posterior segment than in the anterior and generally near the dorsal mid-line. In some cases there is more than one ulcer, and in others there are various clefts which almost or entirely surround the bowel. The writer believes that the method of fusion of the proctodeum with the blind end of the gut is the cause of this frequent ulcer. The lining of the proctodeum is thin and is scantily supplied with blood-vessels. Thus abrasions here are easily brought about. They rarely heal of their own accord. The ulcer exudes an irritating secretion which causes pruritus. The writer gives the ordinary preparation for a rectal operation. It is well for the patient to give up about two weeks for the treatment. When he is anæsthetized, the sphincter is moderately stretched, and the ulcer or ulcers are brought into view and treated with the electric thermocautery. The cautery is also applied to the thickened skin as well. Vaseline is applied to the cauterized area, and a morphine suppository inserted into the bowel. A pad of wool is held in place by a T-bandage, and the patient is put back to bed. On the third night a purge is given, and a warm boracic bath is taken twice a day. The skin is then thoroughly dried and powdered with starch and zinc powder, and a small piece of cotton-wool covered with powder is introduced just inside the sphincter. The irritation ceases at once or after a few days. Even out-patients are treated either with lactic acid or with the thermo-cautery. The results of this treatment are most gratifying. F. C. Wallis (British Medical Journal, May 13, 1905).

PSORIASIS, TREATMENT OF.

The writer reports that he has used with great success the following ointment, the formula of which was first published by him in 1903, in the treatment of psoriasis:—

℞ Acid salicylic, ʒiiss.
Chrysarobin,
Ol. rusci. (birch tar), of each, ʒv.
Sapo virid.,
Vaseline, of each, ʒviss.

This combination contains, he says, keratolytic reducing as well as macerating and antipsoriatic remedies in rather large doses. His method of using it is as follows: For from four to six days the ointment is applied by the aid of a stiff brush to the affected area (after this has dried somewhat it is well to apply a starch or zinc powder). On the fifth or sixth day, the patient starts taking hot baths daily for from one to three days, and after the bath, vaseline is to be well rubbed in from one to three times a day. This treatment, which covers eight days, may be repeated several times, according to the severity of the disease, but, as a rule, the psoriasis patches disappear soon after the first treatment. The ointment causes a marked scaling of the entire plaque, and the black crusts which become closely adherent after five or six days' treatment gradually loosen after a few days of bathing and inunction with vaseline or with zinc sulphur ointment.

The application of this ointment causes an intense feeling wherever psoriasis exists, and the writer considers it an indicator of areas of psoriasis. It also limits the chrysarobin irritation exclusively to the diseased area and causes no diffuse staining. For the best effects, the solid constituents of this ointment must be thoroughly rubbed together. For prolonged use with this ointment, a material called mull has been prepared by the writer which is practically unirritating. The use of these preparations is not limited to psoriasis, but they can be employed in other conditions where a special macerating effect is desired with the smallest possible amount of irritation. It has been used thus in trichophytosis and in local circumscribed dry eczema. It can be kept on six or eight days, after which any mild ointment may be applied. Dreuw (Journal of the American Medical Association, June 10, 1905).

PUERPERAL INFECTION.

The author's custom is to make a careful examination of the genital organs as soon as the temperature exceeds 38° C., unless there is a very good reason for the elevation of temperature. If no unfavorable conditions as to vagina or perineum are found, but the uterus is large and soft, the lochia should be carefully removed with a uterine catheter. In 48 cases in which this procedure was followed the temperature dropped to normal in 30. The uterus should also be irrigated with iodine of mercury solution, 1 to 2000. If this does not relieve the situation, or if the infection appears to be serious from the beginning, the uterus should be explored with the finger, the patient being anæsthetized. If nothing abnormal is found, the uterus should be irrigated and then tamponed with gauze. If there should be hypertrophied or necrosed decidua, it should be removed with the curette, bearing in mind that danger attaches to such an operation. Posterior vaginal section and hysterectomy are to be considered in certain cases. If serum is to be injected it should be used early and in large doses, 20 cubic centimeters being injected two or three times in twenty-four hours. Lea (Fortschritte der Medizin, May 1, 1905; New York Medical Journal and Philadelphia Medical Journal, July 1, 1905).

QUININE, ADMINISTRATION OF.

The writer has compared the administration of quinine by the mouth with hypodermic injection. In each case the quantity found in the blood is very small relatively to the amount introduced into the body, and reaches its maximum after about an hour. The parasite of malaria is, however,, susceptible to a minute proportion of the drug. When quinine is swallowed, more is found in both the blood and urine than when it is injected under the skin. But experience has shown that the latter method of administration is more efficacious in malaria. This is due to the prolonged action of the drug in this case, as it passes continually, though slowly, from the tissues into which it has been injected to the blood. Luca (Archiv Ital. de Biol., March, 1905; British Medical Journal, July 1, 1905).

RECTAL SURGERY

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on with local anæsthetics, of which cocaine and eucaine are the best. In all other conditions, including extensive hæmorrhoids, complicated fissures, and fistulas, and always in neurotic hyperæsthetic individuals, general anæsthesia should be resorted to. J. P. Tuttle (New York Medical Journal and Philadelphia Medical Journal, June 17, 1905).

RHEUMATISM, FORMIC ACID IN.

The author considers that formic acid is little short of a marvelous remedy for the treatment of all rheumatic conditions, including acute articular rheumatism and arthritis deformans. He has cured acute inflammatory articular rheumatism in forty-eight hours, and reports cases of severe arthritis deformans wonderfully improved after forty-eight hours.

The following rules are laid down for using his method of treatment: The parts should always be cleansed thoroughly before injecting formic acid solution. A stronger solution than 3 per cent. should never be used, and a 2 ½ per cent. solution is better. It should never be used without injecting five to eight drops of a 1 per cent. solution of cocaine, or other local anæsthetic as a preliminary to the formic acid treatment. The extensor or outer parts of a limb should be chosen for exhibiting the remedy and it should be injected just beneath the skin, though deep injections may be used when occasion demands. More than eight drops should never be used in any one place of either cocaine 1 per cent. solution or of the formic acid solution. If eight drops of the cocaine are used, a similar amount of the formic acid solution should be employed. If large doses are used for formic acid solutions, hard, painful lumps are formed which are slow of absorption; whereas, if smaller doses are used no destruction of tissue results, and no hard, painful growths supervene. Usually the most painful joints should be injected and the injections made not less than two inches apart. No more than 30 injections should be used at a time, and it is far better to use only 12 to 15 and repeat the following day in another place. All nerve trunks should be avoided, if possible, since injections involving nerves are apt to be followed by severe pains lasting for twenty-four hours. Injections may be given every day, or every other day, till all the pain has ceased. It will not be apt to return unless gross carelessness or willful disregard of plain directions exist. L. B. Couch (Medical Record, June 24, 1905).

SCABIES.

The author alludes to the many mistakes in diagnosis. The characteristic features are the location, the presence of burrows, the intense pruritus—worse at night—and similar disease in associates. Treatment is easy and the cure quick. A scrubbing with soap and hot water should be followed by an ointment of:—

℞ Napthol b., ʒj.
Sulphur, ʒij.
Balsam of Peru,
Vaseline, of each, ʒj.

Well rubbed in. In infants, balsam of Peru is very effective. After three days' treatment, soothing remedies should be applied, returning to the first treatment at the end of the week if itching continues. The clothing should be boiled or baked. J. S. Howe (Boston Medical and Surgical Journal, June 22, 1905).

SPEECH, RETARDED DEVELOPMENT OF, IN YOUNG CHILDREN.

Retarded development of speech in young children may be the result of structural irregularities in the peripheral organs, impaired respiration due to nasal, post-nasal, and pharyngeal obstructions, paresis of the nerves supplying the organs of speech, and not infrequently to some disturbance of hearing not necessarily amounting to absolute deafness. Retarded development of speech always results in defective mentality.

The treatment consists in the removal of any obstruction that may exist in the peripheral organs and in the systematic training of the auditory and speech centers by the use of specially prepared vocal exercises. A child may be taught to hear in exactly the same way as he is taught to read and write. G. Hudson-Makuen (Pennsylvania Medical Journal, June, 1905).

SUMMER DIARRHŒAS IN INFANCY, ETIOLOGY AND CLASSIFICATION OF.

The modern tendency toward classifying disease types upon an etiologic basis, which finds its expression in the continual attempt to separate such types, by bacteriologic proof, into the class of specific infection, is apt to lead to the exaggeration of the rôle of bacteria in all pathologic conditions. Another obstacle to advance in the knowledge of the infantile diarrhœas, is the great confusion which exists in their terminology.

The feeding of the child at the time of onset of the diarrhœa is important in relation to the question of etiology. A certain type of case stands out repeatedly from the others as especially distinct. These are the cases characterized by the existence and persistence of fever. They have the recognized characteristics of true infections, with more marked constitutional symptoms, and a slower recovery than the majority of the cases. Persistence of fever seems to afford the most promising basis for a clinical division of the cases, and to these cases the author gives the name of acute intestinal infection. The majority of the author's cases being of the indigestion type, and not bearing clinically the usual evidences of true infection, he sees no reason for seeking any cause beyond heat, and its consequent indigestion, as necessary to explain their greater frequency during the summer months. As to the infectious cases, it seems probable that bacteria do play an important part in their etiology. Nevertheless, the heat is probably the underlying cause.

The diarrhœal diseases of infancy occurring in the summer months differ in no way, either clinically or anatomically, from the diarrhœal diseases occurring in the cooler months, except in their much greater frequency. Classification on an anatomical basis, as, for example, into functional and organic, or non-inflammatory and ileocolitis, is not convenient for etiologic study, owing to the variety of lesions found in cases of similar etiology and similar clinical course, and to the lack of correspondence between anatomical and clinical picture.

The author suggests the following clinical classification: *(a)* Acute nervous diarrhœa, characterized by loose stools of normal color and odor, without abnormal constituents. *(b)* Irritative diarrhœa. Acute intestinal indigestion of the irritative type, characterized by the absence of persistent fever, and by the presence of curds and undigested masses in the discharges. *(c)* Fermental diarrhœa. Acute intestinal indigestion of the fermental type, characterized by the absence of fever, and by the green stools of a foul or sour odor. *(d)* Infectious diarrhœa, characterized by the existence and persistence of fever, and by the tendency toward early signs of ileocolitis, as shown by the presence of blood, and excess of mucus in the discharges. When a specific organism, the bacillus dysenteriæ, is proved to be the cause, the case may be further particularized by the term infantile dysentery. *(e)* Rare cases occur, corresponding to the known description of heat exhaustion, and cholera infantum.

Of the above differentiated types, the indigestion, including the irritative and fermental cases, is by far the commonest. The chief or primary cause of all these types is the increased heat of the weather occurring during the summer months, which probably acts in the non-infectious cases by producing functional disturbance either of the nervous system or of the digestion; and which acts in the infectious cases by producing in the intestine conditions more favorable to the occurrence of infection. The name thermic diarrhœa can be given to the entire group.

Bacteria are the secondary cause of a certain number of cases, such cases being mainly, if not wholly, of the type classified clinically as infectious. Infection occurs by the introduction of bacteria from without, or by auto-infection with bacteria already in the intestine. The latter is probably the usual method. The bacillus dysenteriæ is a cause of most of the infectious cases. Whether it is the sole cause remains to be determined. The bacillus dysenteriæ can often be found in the intestine in cases where it probably has no casual relation with the pathologic process. Such cases are usually clinically of the non-infectious type. Other organisms are probably a cause of some infectious cases.

The anatomical changes of various kinds included under the term ileocolitis may occur in any of the above clinical types, except the acute nervous. Anatomical changes of some kind probably occur in all infectious cases. C. H. Dunn (Archives of Pediatrics, June, 1905).

TOXÆMIA OF INTESTINAL ORIGIN AS A CONDITION PREDISPOSING TO MINOR INFECTIONS.

In many cases of vital decrease, manifested objectively by minor septic infections, toxæmia of intestinal origin may be regarded as the predisposing cause. It may readily be seen that the direction toward which this conclusion points is very far-reaching. It suggests for instance an explanation of the problem met by the surgeon: given two patients of apparently similar vitality, the same operation and a fixity of technique, why is it that one will promptly recover and the other perhaps either take longer to recuperate or die of sepsis? In the domain of infectious medical disease, why is it that one person contracts typhoid fever and another does not? This leads us, of course, into that fascinating field of study comprised within the limits of natural immunity for which the dawn of knowledge is just beginning. But the train of thought is certainly apparent.

The practical application of the conclusion means attention to the proteid fermentation taking place in the bowel, particularly in those cases in which the urine presents a large amount of indican. It is not sufficient simply to produce evacuation of the bowels. The indicanuria must be treated by diet and other procedures looking toward its complete cessation. This will undoubtedly completely cure many troublesome cases of recurring minor infections. H. A. Houghton (Medical Record, May 27, 1905).

TUBERCULAR PERITONITIS, LAPAROTOMY IN.

Laparotomy is an efficient remedial measure in the treatment of tubercular peritonitis and should be employed in all cases where a month or two of medical treatment fails, except in those cases only of a moribund condition or of such an enfeebled state that the operation itself would be fatal. Neither pyrexia nor tubercular lesion elsewhere than in the peritoneal cavity is a contraindication unless the case be an advanced one and on the border-line of being inoperable.

The mortality is but 3 per cent., and not as high as Eichberg places it, namely, 10 per cent. A laparotomy, if not successful, will not aggravate the condition of the patient in any sense, if the case be an operable one. Dry fibrinous forms, and in some cases the ulcerative forms are cured by laparotomy as well as the serous ones, if the operation be sufficiently radical to remove the primary nidus of infection. P. Y. Eisenberg (Pennsylvania Medical Journal, June, 1905).

TUBERCULOSIS, YEAST IN.

The authors record the results of their observations on the effect of yeast taken internally in tuberculosis. The yeast is supposed to act by means of its nuclein causing a leucocytosis, and further because nuclein is bactericidal. In almost every case some improvement was noted. In 5 cases tubercle bacilli disappeared from the sputum and the disease was seemingly arrested. In 7 cases marked improvement took place. In 11 cases of medium severity and doubtful prognosis, all but one showed improvement. Twelve advanced cases of bad prognosis appeared to be benefited, at least for a time. A steady rise in the opsonic index was noted in 21 out of 25 cases in which it was examined for. This index shows the degree to which the serum of a person's blood prepares tubercle bacilli for being taken up and digested by normal white blood-corpuscles. The yeast employed was of several different kinds, the dose being 2 or 3 grams taken once a day in cold or tepid milk or water. Some patients noticed no influence; others felt a sense of well being, while a few had a feeling of exhilaration. It did not appear to have any influence on the temperature of febrile patients. W. R. Huggard and E. C. Morland (Lancet, June 3, 1905).

TYPHOID FEVER, IODINE TREATMENT OF.

The author states that typhoid is endemic where he lives, and his cases were always severe, the fever persisting high. One patient succumbed to pulmonary complications. Since he has begun to use iodine systematically in treatment his cases have all been mild. Even when the onset was stormy, the disease rapidly assumed a mild course. He administered 7 centigrams of iodine and 70 centigrams of potassium iodide during the day, fractioned, with a quantity of water. He also gave from 15 to 20 centigrams of quinine to retard the tissue breakdown and 50 centigrams of sodium benzoate to favor elimination of waste. A. Ceriolo (Gazzetta degli Ospedali, vol.

xxvi, No. 7; Journal of the American Medical Association, June 10, 1905).

TYPHUS FEVER.

The authors record the prominent features in a series of 600 cases of typhus fever coming under their observation in Liverpool. All the cases were drawn from the poorest and most ignorant classes, and often several cases came from the same family. The greater proportion of cases occurred during the first twenty years of life. Two-fifths of the cases occurred between the ages of 10 and 20 years. The tendency to death was, however, only one-tenth as great as in cases occurring after 20 years of age. The onset was not found to be so sudden and definite as is usually believed; in children, indeed, the onset may not be noticed, and attention first called by the rash. Severe headache is the most prominent of the early symptoms; it is usually frontal and may lead to early insomnia and delirium. The typhus face is very significant to the trained eye, congestion being a prominent feature. The conjunctiva is suffused, the pupil contracted, and the expression dull. The early severe headache and delirium are probably due to intercranial circulatory disturbance rather than to any toxæmia. Early deafness is often present. The tongue is at first raw and "beefy," and constipation is an early and a persistent symptom. Contrary to the general experience, pneumonia was rarely seen, but a certain amount of bronchitis was always present. Muscular pain may be present and very acute; it is usually located in the calves, upper part of the chest, and in the arms. It may be very transient, almost paroxysmal. The rash makes its appearance fairly constantly on the fourth or fifth day, and is all out in three days. It is usually seen first over the chest and shoulders, and then spreads to the arms, the trunk, and the limbs. It is rarely met with on the face. The severity of the attack is usually directly proportionate to the copiousness of the eruption. The eruption is at first raised and disappears on pressure; within a few days there is a definite hæmorrhagic stain which cannot be removed by pressure. In favorable cases the hæmorrhage begins to clear up during the second week. A characteristic feature is the lack of definite outline to the maculæ. Too much stress has probably been laid on subcuticular mottling. The mousy odor, while often present, is not distinctive. The delirium is often very active and may require restraint; late in the disease it may give place to the low muttering of the typhoid state.

Changes in the heart muscle are specially incident in cases occurring among the better class of patients. The temperature chart is that of a lobar pneumonia prolonged to fourteen days, the range being high, 103° to 105° F., with a remission frequently toward the tenth day. The termination, by crises in most cases, is very rapid, and a rise usually occurs in the middle of its course. There is often considerable sweating.

Recovery is rapid; the patients take solid food within two or three days, and leave their bed in a week's time. The authors have seen no case of relapse. Alcohol is of great value as a stimulant in typhus, especially for the circulatory disturbances which occur about the tenth day. The disease is very fatal in alcoholic subjects. Complications and sequelæ are few in number; hypostatic pneumonia, meningitis, retention of urine, suppurative parotidis, multiple abscesses, and thrombosis of the veins of the lower extremities may be mentioned. Abortion is almost inevitable in pregnant women, but seems to be beneficial rather than otherwise. Typhoid fever is the most frequent source of incorrect diagnosis; others are pneumonia, meningitis, scarlet fever, and measles. In conclusion the authors lay great stress on the value of the free use of fresh air in the management of typhus fever. No cases occurred in the hospital force, this result being attributed to the treatment of the cases in large wards with plenty of air space. F. Robinson and E. T. Potts (British Medical Journal, May 27, 1905).

URINE, PRESERVATION OF.

Boracic acid is the most practical urinary preservative that we possess when used in the proportion of 5 grains to 4 ounces (or 2 ½ grains to 2 ounces) of urine. Formaldehyde should be used only by the physician or a responsible person. It should be remembered that 1 drop of the solution will preserve a pint of urine for about a week, and that 1 drop can be used in 4 ounces of urine without harm. Other substances than boracic acid and formaldehyde should not be used. The name of the preservative and the quantity that has been used should always accompany the specimen to be examined. J. B. Ogden (Boston Medical and Surgical Journal, June 22, 1905).

UTERUS, MALPOSITIONS OF.

The writer divides all malpositions of the uterus into three classes: Operative, non-operative, and questionable. The operative class may be further divided into those requiring immediate attention, and those in which it is safe to await for a reasonable time the convenience of the patient. Under the first subdivision come those cases which may be classed as emergency ones, namely, inversion, incarceration and irreducible prolapse of the gravid uterus, and adherent gravid retrodisplacements with symptoms of threatened abortion. In the second subdivision are the complicated retrodisplacements and hernia of the uterus, either through the vagina or through the abdominal wall. In the non-operative class the author would include the uncomplicated retrodisplacements, and reducible hernia of the gravid uterus.

The questionable class embraces the congenital type of cases and retrodisplacements with symptoms relieved by reduction, but where the use of a proper pessary fails to accomplish an anatomical cure, or in young virgins where its use is unjustifiable. The congenital cases being errors in development are each a law unto themselves, and require a most thorough investigation.

Where the retrodisplacement is the only abnormality present, the patient is often greatly benefited by an early operation, but where other marked evidences of maldevelopment exist the prognosis is unfavorable. C. G. Child, Jr. (Medical News, July 1, 1905).

VARICOSE ULCERS, TREATMENT OF.

The various more important methods of treatment for ulcers and superficial wounds are recapitulated by the author, and he points out that Scott Schley's method is the most logical and the most effectual for out-patient practice. It consists in covering the surface thickly with a layer of finely-powdered boracic acid, and placing over it a sheet of gutta-percha tissue extending for 3 to 5 centimeters beyond the margin of the raw area. This is fixed on with bands of strapping, and a gauze dressing is applied over it with a bandage. This application is only changed every five days; frequently it may be left for a week. The author has tried this plan in 25 cases. Every case was first submitted to a thorough disinfection of the wound and the surrounding parts by washing it with hot water and soap, shaving and cleansing it with ether and alcohol, and subsequently disinfecting it with corrosive sublimate. Having applied the layer of boracic acid, an impermeable cover is made by folding the gutta-percha in four; this is covered with a dressing of sterilized gauze and cotton wool, which is bandaged on firmly, so as to keep the application in place. The interval between one dressing and another was never less than five days. Ten of the author's cases had ulceration of a septic nature, in 7 it was due to varicose veins, in 4 to tubercle, and in 2 to burns. The time required for healing was appreciably short; in one case, which had a large septic ulcer on the leg, with œdema and much local irritation, treatment was necessary for twenty-seven days; in other cases, fifteen to twenty days was sufficient. In all the patients the aspect of the wound had changed at the second dressing; the margins were flattened and had advanced toward the center, the granulations were firm and red, the secretion was simply serous or else contained some *débris* from destroyed granulation tissue. At the third and fourth dressings the surface was covered by a fine skin, except for a small area in the center; at the fourth and fifth dressings the cure was complete. Such surprising and beneficial effects are certainly due to the bland and antiseptic action of the boracic acid, which diminishes the secretion from the wound, at the same time preventing the formation of luxuriant granulations; healthy granulations, when kept within proper limits, favor the reproduction of skin and the healing of the ulcer. The impermeable layer hinders the formation of crusts under which such wounds are wont to secrete freely. The chief advantage of this method is the comparatively rapid and easy cure obtained, and the saving of time and of dressings to both doctor and patient. Marchetti (Gazzetta degli Ospedali e delle Cliniche, May 21, 1905; British Medical Journal, July 1, 1905).

X-RAY INJURIES, PROTECTION FROM.

The writer calls attention to the serious risk that x-ray operators undergo, especially if they follow the practice advised of testing the qualities of the rays on their hands with the fluorescent screen. The only practical method is to limit their radiated field by covering the Crookes tube. For this purpose the author uses a pasteboard box a little wider than the diameter of the tube and covered with x-ray lead foil a little heavier than the ordinary tea lead. This extends two inches below the bottom of the box, and can be adjusted so as to limit the field to any extent required. It is not necessary to cover the anode end, and the box is held on a bracket over the portion of the body to be treated; if a very small field is required, a local shield may also be employed. The author thinks possibly some effects are due to the strong induction field surrounding the coil which, especially in large hospitals, should be kept in another room, but with the controlling apparatus within the operator's reach. For the dermatitis of the operator's hands, twice daily soaking in very warm water and scrubbing with Eichhoff's superfatted resorcine soap, is advised, followed by inunction of lanoline containing half an ounce of boric acid and a drachm of resorcine to the ounce. For the acute erythema of x-ray treatment, a stearate of zinc powder with 10 per cent. ichthyol is employed by the author, which he thinks acts as a prophylactic against severe burns. This should not be confused with stearate of zinc ointment, which may do harm. C. L. Leonard (Journal of the American Medical Association, May 6, 1905).

Book Reviews.

AMERICAN EDITION OF NOTHNAGEL'S PRACTICE. ELEVENTH VOLUME. DISEASES OF THE KIDNEYS, DISEASES OF THE SPLEEN AND HÆMORRHAGIC DISEASES. By DRS. H. SENATOR and M. LITTEN, Berlin. Edited, with Additional Notes, by JAMES B. HERRICK, M.D., Professor of Medicine in Rush Medical College, Chicago. Octavo of 816 pages, illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.00, net; Half Morocco, $6.00, net.

The American edition of Nothnagel's Practice constitutes a most important addition to our medical reference literature. The scientific position of the authors causes the work to be welcomed and accepted without hesitation.

The appearance of this, the next to the last, volume brings the work near to completion; one more is now in preparation dealing with the Heart and its diseases. The classical work of Senator has been before the public long enough to be widely known and appreciated; as Dr. Herrick calls it, "a model" of its kind.

He has found little to change, but has enlarged upon certain points of value to the clinician, on treatment, diagnosis, urinalysis, etc.

Surgical treatment of nephritis is treated with the courtesy of omission by Senator and condemnation by Herrick.

The chapter on Diseases of the Spleen and Hæmorrhagic Diseases, by Litten, are scholarly and thorough.

No mention is made of the use of Thyroid Extract, which has been shown by Sajous to be of special practical value in hæmophilia, and William J. Taylor has recorded cases recently wherein this exercised remarkable control of bleeding.—J. M. T.

THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA. Eighth Decennial Revision. By Authority of the United States Pharmacopœial Convention, held at Washington, A.D. 1900. Revised by the Committee of Revision and Published by the Board of Trustees. Philadelphia Agents: P. Blakiston's Son & Co., 1905.

The revised Pharmacopœia will be welcomed by physicians and pharmacists alike. It still preserves its enormous bulk; it is a pity more omissions could not have been made. Certain changes have been introduced into the strengths of Tincture of Aconite, Tincture of Veratrum, and Tincture of Strophanthus which are of great importance for the profession to know and remember:—

Tincture of Aconite has been reduced from	35 per cent.	to	10	per cent.
Tincture of Veratrum has been reduced from	40 "	"	10	"
Tincture of Strophanthus has been increased from	5 "	"	10	"

These changes have been made in order to conform to the standards adopted by the International Conference on Potent Remedies, held in Brussels in September, 1902, the object being to make uniform the strength of potent remedies in all parts of the world.—J. M. T.

Books and Monographs Received.

The Editor begs leave to acknowledge with thanks, the receipt of the following books and monographs :—

"The Pharmacopœia of the United States of America." Eighth Decennial Revision. Revised by the Committee of Revision and Published by the Board of Trustees. Philadelphia Agents : P. Blakiston's Son & Company, 1905.——"Handbook of Anatomy." By James K. Young. Second Edition, Revised and Enlarged. Philadelphia : F. A. Davis Company. 1905.——"Prognosis and Treatment of Urethral Stricture." By Edward L. Keyes, Jr., New York, 1904.——"Mouth-Breathing." By W. H. Fitzgerald, Hartford, Conn. 1905.——"Prostatism Without Enlargement of the Prostate, Its Diagnosis and Treatment." By Charles H. Chetwood, New York. 1905.——"Advice to Gonorrhœal Patients." By Ferd. C. Valentine, New York. 1899.——"On the Treatment of Gonorrhœa." By Ferd C. Valentine and Terry M. Townsend, New York. 1905.——"How the General Practitioner Should Treat Gonorrhœa." By Ferd. C. Valentine and Terry M. Townsend, New York. 1904.——"Some Forensic Problems Concerning Venereal Diseases" By Ferd. C. Valentine and Terry M. Townsend, New York. 1905.——"Storrs Agricultural Experiment Station, Storrs, Conn., Bulletin No. 31," November, 1904.——"The Food Value of a Pound of Milk Solids."——By C. L. Beach.——"The Mexican Cotton Boll Weevil." By W. D. Hunter and W. E. Hinds. United States Department of Agriculture, Washington, D. C., 1905.——"The Relation of Coyotes to Stock Raising in the West." By David E. Lantz. United States Department of Agriculture, Washington, D. C., 1905.

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Sajous's Analytical Cyclopædia of Practical Medicine.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

ON THE HOME TREATMENT OF EPILEPSY.

I write this article because I find that physicians who undertake the treatment of epileptics often do not realize the seriousness of their responsibilities. Many, I fear, simply give a little bromide, stop the meat, circumcise the boy, and say they think the child will outgrow it. But children do not outgrow it; they steadily get worse unless something definite is done, and well done for a long time. With proper, prompt, and prolonged treatment, the attacks can be entirely controlled in 5 to 10 per cent. of cases, and I believe more. They can be greatly controlled in over one-half the cases, so that the patient may be able to continue his education and do some work in life. But this cannot be accomplished by any casual dosing or occasional consultation with some high authority. The physician should approach the responsibility of a case of epilepsy as he would that of a mortal surgical condition, in which much depends on knowledge and attention to all the details of a long technique.

It is conceded that the colony treatment of epilepsy is the one which approaches most nearly the ideal in effectiveness, but it cannot be applied to all classes—at least, for a long time—and perhaps never to a certain rather large percentage. There must always, therefore, be a good many epileptics who have to be treated at their homes, and whose care must be directed by the family physician or the specialist.

For this class of persons I have gradually evolved a conventional or, as I have termed it, a "formal" treatment of epilepsy, which seems to produce the most satisfactory results in those cases in which a reasonable opportunity for therapeutic effort exists. That is to say, cases which are not of very long standing, and which have not already undergone serious mental deterioration, and cases in which the mental and physical degeneration, at the beginning, is not of a very high grade. The details of this treatment I have already published, but they only reached the circle of the readers of the Annual Report of the Department of Neurology, Cornell Medical College, 1904, hence some of the principal points involved I have thought might be presented here.

The features upon which emphasis must be laid, in the treatment of epilepsy, are:—

First, the fact that the course of treatment about to be instituted is to last for at least two years, and that all measures prescribed must be carried out with the greatest fidelity and exactness during that time, no matter how well the patient may seem, or how unnecessary regimen and drugs may appear to be. The preparation and outlining of treatment should receive the care and attention such as is given to a capital operation.

Second, the use of the pure bromide of sodium salt, in combination with the glycero-phosphate of soda, so that a patient takes on an average 60 grains of the bromide of soda and 20 to 30 grains of the phosphate, in twenty-four hours. To this combination iron and a little arsenic may be added, if needed. It has seemed to me proved, beyond any question, that by the combination of proper soluble phosphates with bromide, the depressing effect of the bromide can be largely gotten rid it, and the patient can continue bright and active, and grow fat under a fairly large dose of the drug. This has been tested by me now for about four years, mainly in private practice, but also in my dispensary work. The maximum dose of bromide which can be taken in this combination is sometimes as high as 90 grains a day, but, rarely, more, and not often as much.

Third, I have found it a most efficacious plan in treatment to intermit the medication for either one or two days in each seven. During these days, *e.g.*, a Wednesday and Sunday, the drug is stopped, and in its place is given, three times a day, before meals, a tumbler of hot water, and with it an alkaline laxative. The ordinary tablet of rhubarb and soda, with nux vomica, usually answers this purpose. Sometimes 20 grains of bicarbonate of soda is enough. Its purpose is to flush out the stomach and bowel and cleanse the gastro-intestinal canal twice a week, thus preventing the accumulation of drugs and toxins. After meals on these days I sometimes give 10 drops of tincture of iron or some needed tonic. I have not seen any access of convulsion during the day or the day after such intermission.

Fourth, an important measure which I employ in the treatment is the securing of violent physical exercise for about twenty or thirty minutes, at least, three times a week. This must be done either by some active sport, like boxing, in the gymnasium, by tennis, skating, or by the simpler methods of chopping or sawing wood or punching the bag; but the exercise of whatever kind should be short and to the point of free perspiration. After this exercise, the patient is given a cool bath. Delicate persons, women, and those who are unable to carry out such exertion, I direct to purchase a "hot-box" and take a hot-box sweat, followed by a cool bath, three times a week. These boxes are not expensive, and can be set up with little trouble.

Fifth, the question of diet is attended to, but upon this I have no regimen other than that of the moderate, mixed diet, with the small amount of meat, which is usually recommended.

I have not collected my statistics as yet to support the validity of my belief that this outline of treatment furnishes the best indications for the home care of epilepsy, nor do I claim that it cures cases. I have, however, a good many patients who came to me with attacks two or three times a month, who, under this treatment, have been able to keep their attacks under control, so that they have practically none, or only one or two a year, and are able to resume their work, for it has always been my belief that epileptics should be made to go to work, and to live, in every way, as nearly like normal persons as possible.

It goes without saying that there are many epileptics who are too advanced or too degenerate for treatment and who need only custodial measures.

I am strongly in favor, however, of giving bromide, guarded, as indicated, by measures which keep open the skin, cleanse the bowels, and invigorate the circulation. The dose should not be large. Not much can be done if 60 or 80 grains will not do it. There is no merit in mixing bromides, and the sodium salt is as good as any. The dose should be *increased* as the patient gets better; he should take more, if possible, at the end of the second year than at the beginning of the first, if the attacks are controlled. After four years one can feel safe, not before. There are no other drugs of any importance in epilepsy, though freak cures happen under all kinds of measures. Looking over the histories of twenty cases which I have followed in private practice in the last four years, I find in 5 no help at all; in 3 attacks stopped for 2 to 4 years; in 12 attacks reduced from $\frac{1}{4}$ to $^1/_{12}$, *i.e.,* from 1 every two to six weeks, to 1 every six to eighteen months, the patients all being well, feeling well, and doing their work like other people.

CHARLES L. DANA.

SUTURING THE HEART MUSCLE.

In 1896 was recorded the first suture of the heart muscle to close a wound, and in 1902 I collected 34 cases which had been reported in the intervening six years. In September, 1904—a little more than two years after these 34 cases were collected—Stewart collected 60 cases, showing in general that surgeons had learned the lesson from the statistics, were on the lookout for the cases, and were submitting the patients to operation. I have made no search for cases reported since last September, but the assumption that there are some such is surely not far fetched.

Now 60 cases is a large number if one thinks of them as representing a series of recent operations on a rare condition, which was untreated up to the time of the series. But 60 cases are hardly enough to supply all necessary facts so that reliable general inferences may be drawn and safe general rules formulated. Furthermore, it is not to be expected that in the short time of two years there should have come any marked changes in the statistics of recovery and death between the first and the last half of the 60, especially as the operators have been so many, for only eleven men have had the opportunity of repeating the operation once, and only three, Ninni, Giodorno, and Barth, have done it three times. In the 1902 list 38 per cent. of the patients recovered, counting all the cases; in the 1904 list 38 $^1/_3$ per cent. recovered, showing that there was a remarkable average struck in the four contributing elements, the patient, the wound, the infection, and the operator. It hardly seemed fair, in discussing the 1902 list, to count as against the operation those cases in which hopeless conditions were disclosed, and those patients who died of the hæmorrhage from the original wound in spite of the operation. Eliminating these and considering only those patients who had a chance, which was given them by the operation, the percentage of recoveries was nearly doubled. Much the same is true of the 60 cases. Stewart notes a mortality of over 76 per cent. in those patients operated upon within four hours, and in those whose wound did not kill within that time and who had the operation later, the mortality was 30 per cent. In regard to the other two matters of infection and drainage there is such a close similarity in the 60 cases as in the 34 that we have to say that the increase in the cases and the operations has not as yet taught anything new or definite, and the same may be expected to be true of the next 60 cases, unless it chances, which is unlikely, that many operations can be done by one operator and give him special opportunities for observation.

There has come, however, a suggestion of an extension of the application of the operation. Guibal, in the Revue de Chirurgie, 1905, suggests suture of the heart in those cases of rupture in which the pericardium is intact, a rupture that is produced by traumatism and is not a pathologic end product. Guibal says the operation has not yet been done for this condition, but that the condition at times is met. The traumatism to the heart may be by fractured ribs or sternum, or a blunt missile; it may make a contused wound in the heart penetrating to the endocardium or not, but not tearing the pericardium. Or the rupture may be due to compression, in which case the incompressible blood in the heart bursts the organ in its thinnest parts, that is, in the auricles, and the tear may even extend into the large veins. Given a rupture of the heart with intact pericardium, the conditions under which the heart works differ from those in which the pericardium is torn. In the former case a certain amount of blood escapes from the ventricle into the pericardial sac at each systole, and in time the pressure of blood in the sac approximates and then equals the pressure in the ventricle. When this state is reached blood cannot enter the auricles from the large veins, for they are subjected to an external pressure equal to the systolic ventricular pressure; the heart is practically strangulated, for its own blood supply is cut off; it may not be inapt to say it is drowned in its own blood. This does not occur if there be a wound in the pericardium associated with that in the heart; blood poured into the pericardium can escape into the pleura, or mediastinum or on the surface. If death comes from the hæmorrhage it is due to the general acute anæmia. If it comes in the case of the intact pericardium with the wounded heart, it is due to the compression and the anæmia of the heart alone.

The supervention of this hæmopericardium may be quick or slow. Guibal refers to two cases in men; one, that of Podrez, took but three days to attain a critical stage; the other, that of Mansel-Moullin, required three weeks. That it may, however, be much quicker than in either of these cases is evident from laboratory work, and this has shown that the deaths due to heart trauma which occur from a few minutes to a few hours after the injury are due to acute hæmopericardium.

It will not be wise to pass this suggestion lightly by. It is more than likely that patients with this injury are in the hands of surgeons at this very moment. Probably the heart injury is one of a number of associated lesions, and if it is it is surely the one of maximal importance. If the patient dies, it is not at all improbable that the heart injury cuts a figure next in causal importance to injuries of the central nervous system, and if that be so we have the satisfaction of knowing that the heart is accessible, that its injuries can be repaired, and that healing may be expected.

The appreciation of the condition does not seem to be difficult. The history and character of the general injury would be suggestion, and shortly, that is, within a few minutes, or a few hours, or a few days, would supervene the symptoms of embarrassed heart action, and the rapidity of its action would not be an element of the symptom complex of an infection. At this time the area of cardiac dullness should be much increased. In the case of Podrez, Guibal states that the cardiac dullness extended from the third to the sixth rib, and from the right border of the sternum to the left anterior axillary line.

If we can recognize the gradual supervention of compression of the brain due to a slowly forming extravasation of blood, if we can locate the clot and operate for its removal, we should be able to recognize this compression of the heart. In the case of the brain we only get those symptoms which come to us through the nervous system, while in the case of the heart we can use the ordinary methods of physical examination, and no operation should be undertaken unless the physical signs show that the pericardium is distended far beyond its usual limits. If it is so, and the heart is working rapidly and ineffectively, the inference must be that something is distending the pericardium and interfering with heart action; that this, after a trauma of the thorax, and in the absence of symptoms of infection, is most likely to be a hæmorrhage, and that to permit the condition to go unrelieved will be quite as reprehensible as it would be to permit a patient to die of compression of the brain without opening the skull.

Mansell-Moullin operated on his patient, relieved the hæmopericardium, and later on the man resumed foot-ball, in playing which he had gotten his injury. I think that surely others of us must have the same opportunity presented sooner or later, and the only way to adequately meet the contingency will be to prepare to recognize it.

It is hardly practical to enter into technical operative details in this place, but there are some points which merit brief mention. The suture material of choice for the heart muscle is still silk, though long-lived catgut is permissible. The refinement of placing the suture during diastole, and tying in a succeeding diastole is abandoned. Operators on human hearts find, as I found on dog's heart, that the rhythm of heart action continues even though the organ be hanging from a string, and so the first suture is tied and the ends left long and used to hold and steady the organ during the placing of the other sutures. This is really a manœuver of considerable value, especially as the heart might otherwise require to be lifted from the pericardium for each suture and be thus subjected to an unnecessary amount of handling. Finally the fear of subsequent ills such as from wounding and tying the coronary arteries is abolished. Ricketts showed that either coronary might be tied in the dog, without harm, and it had been the same in my dog work. In addition Stewart wounded the coronary artery in placing a suture in a human heart and tied it, and his patient recovered. So that the fact that the coronary arteries may be treated as other arteries if they are cut, seems to have a good foundation in experience.

There is naught more disheartening to a surgeon than to have an otherwise exemplary technique stultified by infection. The operator on emergency cases has this saving clause in the face of this mischance: that he may divide the responsibility with the original wounding instrument, even though he has no way of definitely knowing that the infection really occurred before his operation. Basing conclusions on a most meager list of cases I found that in heart wounds infection was caused in one-third of the cases by the wounding instrument. This, I think, makes it incumbent on every operator to consider every such wound as probably infected and to arrange for drainage.

The merest glance at the list will show the need of this, for almost all the cases that lived long enough for infection to develop, exhibited it, and it cut a decided figure in the mortality, being the cause of death in all the fatal cases that did not die of hæmorrhage or of the shock of the primary operation. But there seems to be a difference in the susceptibility to the infection of the two serous sacs involved. The pericardium is much less frequently affected than is the pleura, and this makes it probably correct practice to close the pericardium without drainage, and probably wrong to do that with the pluera. Indeed one must expect, if one does not drain the pleura primarily, to have to do so secondarily, and surely in the face of this contingency one should always choose the practice that exposes the patient to the least risk, and that must lie in the placing of a precautionary drain. Further than this one might, with reason, strap the left side of the chest to limit motion, lessen the amount of effusion, and give the pleura a chance to dispose of what was inevitably present. It is not likely that, with a pneumo-hæmothorax present the left lung will be of much practical value to the patient, even though his acute anæmia makes him suffer some from air hunger.

It hardly seems likely that any of the lesions of the heart which interest the physician will be amenable to surgical intervention, even though an English physician did suggest that mitral insufficiency might be remedied by contracting the orifice. The pathologic heart is already potentially, if not actually, incompetent, hence does not invite one to add to its load, and the explorer in this field will have to be either a preternaturally wise or a very venturesome man.

HARRY M. SHERMAN.*

THE EARLY RECOGNITION AND CARE OF MENTAL DEFECTS IN CHILDREN.

THE early recognition of mental defect in children and its mitigation is a crying need of the day, for the untrained adult imbecile stands the most helpless, often the most dangerous, type of a dependent class. If there be an appearance of intelligence which he does not possess, and he looks brighter than he really is, just in the same proportion is more expected of him than he is capable of fulfilling, and to those who do not understand him he is consequently most irritatingly disappointing. Should he have attained the stature and physical development of a man, and yet be of low mental grade, incapable of self-help, he becomes naturally a greater care to those in charge of him than the child who can be handled with more ease. Again, if he be possessed of a high or middle grade of intelligence, which yet has not been directed by training into some channel of usefulness, indolence and that susceptibility to suggestion peculiar to his class will render him, if he be not under constant guardianship, the tool or the victim of vicious persons who will quickly gather him into the criminal ranks. Most generally ignorance of true conditions, or a futile hoping against hope, has kept him in the home untrained and untaught until degeneration from lack of stimulation has atrophied his meager faculties. Then, when too late, and the burden has become insupportable, the training-school is invoked to do the impossible—to train the untrainable—and too often, where influence can accomplish it, such cases, properly subjects for mere asylum care, are forcing out the young trainable children, who might be brought to a condition of fair responsibility or even semi-self-support. Thus we find, as links in a chain, wrongs affecting the home, the school, the individual, and his neighbor, following in natural sequence; all traceable too often to the ignorance of the parents and the family physician.

The strenuous quality of our modern life creating a highly nervous race, resulting naturally in an increase, marked and rapid, of mental defect, psychosis, and nervous disease, presents, as does the much-talked of race suicide, a wide field of research to the student of to-day, who finds therein that over-much zeal has not always for its goal the ultimate good, no more than is "race suicide," so called, an unmitigated evil, since only by the elimination of the strain that threatens race degeneration, may we hope for a survival of the fittest.

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In view of the overwhelming evidence which statistics present of the far-reaching power for ill, of accident, of disease, and of hereditary transmission as seen in unlooked for lapses into idiocy, imbecility, epilepsy, sudden outbreaks into insanity, and their recurrence in generations through latent or combined neuroses, it would seem that these subjects should achieve a greater prominence in the lectures of our medical colleges, so that the young physician shall be early led, while yet a student, to search out and consider such influences before making a positive diagnosis. Ability to recognize defect and to affirm its absolute incurability; to diagnose and to explain the special forms of defect; to discriminate between the hopelessness of idiocy and the possibilities of amelioration for the imbecile; to outline the measures indicated, and furthermore, exhibit courage to give repeated and emphatic warning as to the danger of delay, are responsibilities confronting to-day almost every general practitioner; and yet how few are prepared to meet it.

The student, if he is to be successful in meeting all the demands of the day, must be brought to realize that books are but feeble guides and aids to that higher study found beyond the limits of the lecture-room, the dissecting-room, and the bedside clinic. He will need to prepare himself to discriminate intuitively between disease and defect—which constitutes the real difference between insanity and imbecility—and to recognize readily the stigmata of degeneration; and this power is best gained through repeated observation and association with the living mass of humanity, twisted, delimited, and askew, found in asylums, institutions, and sanitoria. Here, while familiarizing himself with many types, he can also compare their present with their past—the living fact with its unquestioned history gathered from data compiled—and in arriving at a knowledge of cause and effect, as is possible in no other way, he will learn also the value of formulating his own tables of etiology. These the note-book of every practitioner should show, and by them and through them he should be able to maintain a certain oversight of the families in his care, somewhat similar to that of the chief of a large institution, while exercising a salutary influence in his community—dependent of course upon the personality of the man—infinitely more far-reaching. For he comes in time to be the mentor and guardian of its children; his mission not alone to minister to physical ailments, but by suggestion as to treatment and training, changing often the whole current and destinies of their lives, or by well-timed caution safeguarding from permanent misfortune.

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REMARKS ON MUSCULAR RHEUMATISM AND ALLIED PAINFUL STATES.

The physician is constantly confronted with a variety of sensory problems, many of which resist treatment to such a degree that dissatisfaction follows and, too often, a change of medical adviser. A large proportion of these are due to what are called the acid intoxications. The nature of the processes involved have provoked such a vast amount of controversy, discussion, scientific and pseudo-scientific, with conclusions so widely at variance with each other, and, indeed, with common sense, that we are often compelled to fall back, in our treatment, upon empiricism, illumined, it is true, by incidental exact findings and conclusions.

Moreover, the underlying factors are so complex—of bio-chemism, katabolism, suboxidation, the status of the regulative mechanisms, the ductless glands, the circulatory organs, the blood, especially the plasma, with consequent morphologic changes in affected structures—that practical findings are obscured by their very mass. It is not feasible for the busy practitioner to keep in review all the pathologic data, hence he should strive to secure a practical summary of acceptable principles which he can use clinically. He can fix his mind at least upon those points which ought to aid the cure.

The causes of muscular rheumatism arise chiefly in states of faulty oxygenation and oxidation resulting in disorders of metabolism.

Hence, in devising means of cure, we cannot go amiss in following a broad general plan of bodily hygiene, beginning with a revision of digestion, elaboration, and elimination. Then should follow a thorough search into individual susceptibilities, peculiarities, habits, tastes, and previous derangements. To secure best results these peculiarities demand radical correction, involving personal direction, with dominant and consistent control of contributory circumstances.

Unless this be done, the results are chaotic, inexact; many conditions misunderstood or unrevealed remain as contributory causes. Actual harm may be done as well as failures of relief follow zealous blundering, guessing, meddling, firing of chance shots with inaccurate or ill-timed aim. How can we arrive at such a degree of professional efficiency? Not by searching for new and wonder-working remedies to combat obvious but unappreciated functional derangements; not by assuming the potency of change of scene, climate, spas, novel systems of treatment, but by a rational comprehension of the factors present, adopting fundamental principles for the elucidation of concrete puzzlements. The writer does not pretend that he has attained such wisdom, only that he is an earnest student on these lines.

Much is to be learned; many essential facts must yet be learned before full control is attainable. Among modern writers are many who offer deeply significant hints, pertinent, helpful conclusions. The present communication is too brief to be scholarly. It must be left to a future occasion to review these, even the chief of them. Here only such acceptable points can be offered as have illumined our mind, borrowing freely from these authors, and adding the fruits of experience.

These acidoses, or intoxications, as they show themselves, are clinically recognizable chiefly by their effects, in perversions of function, degeneration of tissues, notably the blood; in subversions of oxidation and oxygenation processes, katabolic stasis, many digestive and some respiratory disorders—asthma, chronic bronchitis, and certain infections, such as pneumonia and tuberculosis.

Again, a group of common phenomena result in subkatabolism, with the production of excess of sarcolactic acid, *e.g.,* fatigue, traumata from pressure or irritations. From such causes, as Wakefield says, the circulation is deranged, blood-vessels being occluded in part, producing cell asphyxiation, resulting in gelatiniform tissue changes of a benign character, possibly passing on, under certain circumstances, to malignancies.

A large number of unclear painful states, variously labeled, have their origin in acid intoxications. So, too, of many depressive states, neurasthenias, psychoses, hallucinations, gloom.

They are more commonly evinced by sensory derangements, often passing into exquisitely painful conditions, headaches, migraine, neuralgias, myalgias, neuritis or simulations of neuritis, recurring often in such degrees as to render life wretched, disabling, all but enforcing permanent invalidism. By reason of the morbid factors at work, whatever they may be, certain parts are rendered useless, more or less permanently.

Although not of, or by, themselves threatening death, yet they so derange the rhythm of life as to produce serious changes in the conduct of life, curtailing normal activities, diverting energies from normal channels, inducing psychoses, aggravating neuroses, spoiling dispositions, embittering existence.

Few problems confronting the clinician justify closer study as to causes, prevention, and means for more than temporary relief. So varied are the phenomena, yet so constant are the major features, that it is obvious we must look for some common points of origin and relief.

Studying the results of these from their clinical manifestations, deductively elaborate differentiations are made, articular rheumatism, chronic rheumatism or myalgia, lumbago, neuralgia of varied location, migraine, neuritis, multiple and local, etc. Perhaps a larger array of conditions could be arranged etiologically under the acidoses, when contributing causes are included, such as diabetes mellitus, spasmodic disorders, puerperal eclampsia, epileptics, certain forms of anæmia, especially those of bulk; hydræmia.

Upon a basis of acidosis, decreased alkalinity of the blood, cellular resistance often so impaired as to furnish the origin for many serious diseases, among which are septic, tubercular, and gonorrhœal arthritis.

The principles of treatment of the acidoses involve attention to the systemic perversions and sensory disturbances. Suggestion is necessary to secure coöperation which is by no means easily attained. So varied are the symptoms, persistent the recurrences of discomfort, so protracted the disabilities, that it is a matter of surprise to the physician to find so little consistent help afforded by science. Once earnest personal coöperation is promised, the recommendations should include most of those precautions which apply with equal force to the attainment of health and longevity. Revision of habits is essential, wherein the physician needs to be thorough, judicious, and dominant. The digestive organs will be somewhere at fault, notwithstanding the fact that the ordinary symptoms may be absent or found only on critical search. Alkalies before meals are generally useful to correct the organic acid formation, to remove gastric mucus, especially to cleanse a catarrhal duodenum, relieve the outlet to the common gall duct, etc. Remedies are indicated to overcome attacks of biliousness; laxatives are required occasionally even where actual constipation is not present, but to promptly remove the intestinal accumulations, among which are the milder morbific bacteria and their toxins, especially the end products, organic acids, acetic, butyric, lactic, succinic, valeriænic, caprionic, etc. Also other remedies may be indicated to expedite the action of the eliminating organs according to the needs of the case.

The most universal fault will be found in the manner of eating, the combinations of food and drink. Many of these errors are primarily mechanical, inducing errors of chemism, directly and indirectly. As to choice of articles of food which should be avoided or limited, this is within the powers of any competent physician. It is wise to steer clear of irrational prejudices which have become current and always to bear in mind the dictum of Maxon (quoted in this connection by Roberts, Osler, Woods Hutchinson): "It is quite as important to know what kind of patient the disease has got, as to know what sort of disease the patient has got."

Woods Hutchinson says wisely: "The question of our ability to relieve our patients from the tortures of toxæmia has depended on our ability to correct some vice of bodily habit. It may be in exercise, in bathing, in sleep, in mental stress, in hurry after meals, even in errors of refraction, that the crux of the lithæmic problem may lie."

Further, many of the remedies, vaunted as specifics for rheumatic and gouty states, will be found to act more directly upon the digestion, alkalies to correct acidities, fermentation, laxation, kidney elimination, and the like.

Researches on status of alkalinity and specific gravity of the blood have been recently emphasized as of direct practical importance. This normal alkalinity is due chiefly to the carbonate and phosphate of sodium present. Saturation of the blood with CO_2 causes the plasma to become more alkaline and the corpuscles less so.

"Therapeutically, it is of importance that both the specific gravity and the alkalinity of the blood should be kept at normal. In many pathologic conditions there are deviations from the normal which produce more or less marked symptoms; in fact, anæmia of bulk and hydræmia, the result of the increase and decrease of the specific gravity, and acidosis, the result of decreased alkalinity, are conditions producing a complicated array of symptoms which might almost be classed as definite diseases." (Hubert Richardson.)

"Acidosis, a decreased alkalinity of the blood, can be brought about either by the administration of acids or from their formation in the system, or by decreased intake of alkalies." *(Op. cit.)*

"In acidosis the elimination by the lungs is increased and that of the kidneys is decreased." *(Op. cit.)*

Certain organic acids formed in the stomach and intestines produce a variety of symptoms, mostly neurotic; not, however, if they were unabsorbed and voided. The worst of these are the acetone bodies, viz., acetone, diacetic acid, oxybutyric acid.

Other acids, often in small amounts, yet can produce acidosis and can be detected in the urine. The formation of these acids takes place chiefly in the stomach and intestines, neutralizing the alkaline media necessary to oxidation and tryptic digestion. Failure of elimination of acids and other excretions by bowels, kidneys, and skin may be responsible for hyperacidity and toxæmia by accumulation (Wakefield). Obviously, intestine putrefaction forms the foundation of many disorders, mainly by irritation, whereby tissue resistance is lowered, pathogenic bacteria parasites and toxins are invited to enter the circulation.

Personal experience in recurring conditions, especially painful ones, educates a physician and enables him to offer advice with peculiar conviction.

Muscular rheumatism is common enough, but ought to be less so. It is entirely preventable; it is amenable to cure, but it is seldom possible to command all the conditions of life necessary to achieve either. It is relievable by simpler means than are usually employed, and to a far more perfect degree than is often obtained. When once established it is liable to remain with one till death. Eternal vigilance is the price of relative emancipation. However, their fate is not so pitiful when it is reflected that by following the rules whereby these discomforts are alleviated or eliminated, many other desirable effects are also attained; among them passports to longevity. As Oliver Wendell Holmes said: "Nothing so conduces to a long life as an incurable malady." This is eminently true of the acidoses, notwithstanding the incidental annoyances and dolors, and the actual perils of possible consequences if suffered to go on unchecked.

Contributory causes are many, but we may focus our attention upon that which underlies our conditions most, if not all, viz., errors in diet. If the digestive function be wisely conserved from earliest infancy, it is scarcely conceivable that the "diathesis" habit of body, katabolic status, can become established. The problem presenting is usually to overcome the effects of reprehensible abuse, especially pernicious habits and vitiated tastes. The deranged walls of the stomach or bowel become permeable for germs to pass into the general circulation. Biliousness shows that the normal guardianship of the liver, its function as poison filter, is impaired.

As the subject of digestive derangements is so vast, it will be sufficient here to outline briefly the principles upon which I have been able to secure the most conspicuous results. The choice of foods is of less significance than the manner of eating. The thorough mastication of food, whether it be dense or fluid, is the *"sine qua non;"* permitting no mass to be swallowed until completely comminuted. Even milk and raw eggs should be held in the mouth till insalivated. Fluids, water, decoctions of tea or coffee, should never be taken into the mouth unless then empty. Soups, broths, purées, should be taken alone and slowly, held in the mouth for an appreciable time. As to choice of foods, it will be found that, as Fletcher has so wisely pointed out, once the sanity of taste is restored by careful mastication, the impulse to select a suitable dietary will soon be restored by a return of normal wholesome instincts.

It is obvious that if the intake of foods be above reproach, not only will digestion proceed normally, but the great elaborating agencies will not be overtaxed, fewer and simpler poisons will be formed and more perfectly disposed of, eliminated, or destroyed. The dejecta must, of course, be extruded from bowels, skin, kidneys, and lungs. It may be necessary occasionally to specify the articles of diet permissible, but as a general rule the safeguards outlined above are of vastly greater efficacy than the most thorough chemical adaptation. In any event they must also be enforced.

My experience leads me to advise limiting the amount of food in most cases, although where exhaustion be recognized, hyperalimentation is required. For this purpose the use of raw eggs, especially yolks, as pointed out by Heinrich Stern, serves admirably.[1]

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[1] This article will be concluded in the next issue, outlining the more efficacious forms of treatment.

Cyclopædia of Current Literature.

ACTINOMYCOSIS, TREATMENT OF.

Six cases of actinomycosis are reported by the writer which he has recently had under observation, and he states that treatment is of absolute and demonstrated value in this disease. It should consist, in the first place, in the opening of the focus and in drainage, and in the second place in removal by a sharp spoon of the granulation tissue produced by the lesion. The fungi remaining in the tissues should be destroyed by nitrate of silver in stick or solution, or by iodine. The drainage should be maintained by iodoform packing. Iodide of potassium should be used either internally or as a 1 per cent. injection introduced into the tissues surrounding the focus. The drug, it is suggested, may be given in interrupted doses. It may be administered for a week and its use be discontinued then for three to five days. This practice is based on the theory that the spores are more resistant than the adult thread forms, and that when the drug is not given the spores find an opportunity to develop into the adult forms, which are more easily destroyed by the iodide.

The x-rays, it is held, are of distinct value in the treatment of actinomycosis. Some experiments made by the author and two assistants showed that the rays liberate free iodine in solutions of iodide of potash, and he believes that it is fair to conclude that given a patient suffering from actinomycosis, who has been freely dosed with iodide of potassium, the exposure of the local lesion to the x-rays favors to a considerable degree the liberation of free nascent iodine. The author states that he has obtained apparently striking results from this combination of therapeutical methods. Bevan (Annals of Surgery, May, 1905).

ALBUMINURIA, PROGNOSIS AND TREATMENT OF.

Dietetic treatment of nephritic albuminuria is more important than physical measures, while medicine is of comparatively slight benefit except against the underlying cause. Cyclic albuminuria is always of pathologic origin, and may be the manifestation of an insidious nephritis. When this can be excluded, physical measures will be found the best means of restoring conditions to normal. Strengthening the heart by muscular exercise is useful if overexertion be avoided. The author prefers cold and tepid to hot baths, but the proper reaction with warmth and rewarming of the surface must be obtained or they do more harm than good. One of the principal benefits of the cold baths is the stimulation of the appetite. The clothing must protect thoroughly against cold and dampness. Massage and elastic compression of the legs never did any good in the author's experience.

The diet in nephritic albuminuria should seek to compensate the losses of albumin. Cooked eggs, meat, both dark and light, fish, and vegetable albumin should be taken in abundance. Milk is less a strengthener of the heart than meat, and its frequent drawbacks of dyspepsia and urinary and intestinal disturbances have dethroned it from its former exalted position, although the absence of elements that irritate the kidney and its "rinsing" properties theoretically rank it above meat. The more varied the combinations of the above articles of diet, the better and stronger the patient will feel. The fear of increasing the albuminuria by the copious intake of albumin will be found to have no basis in fact. Fürbringer (Deutsche medizinische Wochenschrift, Bd. xxxi, Nu. 20; Journal of the American Medical Association, July 8, 1905).

ALCOHOL, EFFECT OF, ON THE CIRCULATION.

The author reports the results of his experiments with alcohol. From 40 to 60 centimeters of 10 per cent. to 18 per cent. alcohol caused a rise in the blood-pressure in twenty to thirty minutes after ingestion, which disappeared in sixty to seventy-five minutes. The increase in pressure was 15 millimeters of mercury in most cases, reaching 30 millimeters of mercury in others. A few showed only 5 millimeters mercury rise. Doses of 60 to 80 cubic centimeters of 20 per cent. alcohol or 50 to 60 cubic centimeters of 30 per cent. alcohol caused, first a slight rise, then a fall to, and slightly below, the pressure at the beginning of the experiment. Fifty centimeters of 50 per cent. alcohol cause a lowering of the blood-pressure from the beginning. The lowering of the blood-pressure with 100 cubic centimeters of 50 per cent. alcohol did not exceed 10 millimeters of mercury. Persons accustomed to using alcohol do not react with the small doses, but require greater amounts. It was found that when the pressure had been raised by small doses, it could be maintained by giving repeated doses at thirty-minute intervals.

Regarding the pulse wave, it was found that the catadicrotism became very pronounced. With large doses of alcohol, the frequency increased. The pulse wave was fuller than normal with moderate doses. The skin on the hands and face became red, and an increased perspiration was noticeable. Animal experiments showed that the cardiac vascular supply was bettered under the influence of alcohol and the heart muscle contracted more vigorously.

The writer concludes that the blood-pressure is increased by alcohol in proper doses; that the rise in blood-pressure is due to a vasoconstriction in the splanchnic system, associated with a peripheral vasodilatation; and that increased cardiac action is due to a better circulation in the cardiac vessels. Martin Kochmann (Deutsche medizinische Wochenschrift, No. 24, 1905; St. Louis Medical Review, July 8, 1905).

ANÆMIA, PERNICIOUS, ETIOLOGY AND PATHOGENESIS OF.

In hæmorrhage there is created a deficiency in circulating red cells, which is met by the marrow with the mature red cells lying close to the capillaries at the periphery of the erythrogenetic groups. In large hæmorrhages with exhaustion of the supply of mature red cells a certain number of normoblasts are called out to supply the deficiency.

On the other hand, with a circulating toxin, there is destruction not only of red cells in the circulation, but also of some, at least, in the marrow, even of normoblasts as suggested by the large number of naked nuclei found later in the circulation. The marrow responds, in this emergency, with nucleated red cells of normoblastic or megaloblastic type, depending upon the extent of the destruction. The experiment of the repeated dose of ricin where megaloblasts appeared only after the second dose would seem to confirm this idea, as well as the observation as to the arrangement of the cells in the erythrogenetic groups in the marrow.

Applying these conclusions to pernicious anæmia, it seems possible that an analagous toxin may be present, destroying red cells both in the circulation and in the marrow, so that in the reaction nucleated red cells are used to supply the deficiency—that further action of the toxin reduces the erythrogenetic groups more or less to the megaloblastic centers, diminishing greatly the regenerating power of the marrow and resulting in a discharge of megaloblastic cells in the hasty effort to supply the needs of the circulation. Thus, the regular orderly development of the groups of the marrow cells is interfered with and a short cut is taken from the megaloblast to the macrocyte, an imperfect, immature cell, as shown by its polychromatophilia and granular basophilia. In this light it is not difficult to see why cases of pernicious anæmia with few normoblasts and more megaloblasts in the circulation are of graver prognosis than those with a large number of normoblasts and few megaloblasts. And again, if the presence of nucleated cells in the circulation is regarded as evidence of injury to the bone marrow, the "nucleated red cells crises" of pernicious anæmia and leukæmia in which the blood picture resembles much that shown in ricin intoxication is explained. C. H. Bunting (Bulletin of the Johns Hopkins Hospital, June, 1905).

ARTIFICIAL RESPIRATION.

The writer recommends a combination of the Marshall Hall, Sylvester, Howard, and Brosch methods of artificial respiration, which are described in detail, stress being laid on the importance of keeping the tongue drawn out of the mouth. The ideal method is to seize the tongue with a Pean forceps and draw it out of the mouth, letting it hang down on one side, the forceps being fastened to the body by a band passed around the head. If forceps are not at hand, one person must hold with his fingers the tip of the tongue in the corner of a handkerchief. A person kneeling at the head of the subject should devote his entire attention to the tongue, while counting aloud his own breathing rate. An aid on each side makes the Sylvester movements for the arms, while the fourth aid, kneeling astride of the subject, makes the Howard movements, not removing his hands during the intervals, but merely suspending pressure with them, carefully avoiding any pressure of the abdomen that might force stomach contents into the throat, with consequent aspiration. This danger is a real one; aspiration is rendered less imminent by having the head low. If only three assistants are at hand, the one kneeling astride must take charge of the tongue, as well as of the Howard movements, and, if there are only two, one must make the Sylvester movements for both arms. If only one is present, the arm movements should not be attempted, and the assistance should be restricted to holding the tongue and the Howard movements. G. Herter (Deutsche medizinische Wochenschrift, Bd. xxxi, Nu. 20; Journal of the American Medical Association, July 8, 1905).

ATROPINE AND HOMATROPINE AS CYCLOPLEGICS, RELATIVE ACTIONS OF.

From a clinical study of the relative actions of atropine and homatropine as cycloplegics, the author concludes that homatropine is not in any way as efficient a cycloplegic as atropine. The solution of 1 grain to the drachm, 1 drop in each eye every three to five minutes until eight to ten instillations are made, seems to be as efficient and safe a solution as any. Homatropine usually, if not always, is inefficient in cases that suffer a great deal from eye-strain, whether there be any indication of retinal or choroidal congestion or not.

It is advisable to use homatropine in cases between the ages of 20 and 40 where a cycloplegic is used (and this should be the rule), provided there are no marked symptoms of eye-strain, but at the same time it is advisable to inform the patient that the examination may be only tentative, and they may have to return for further treatment under atropine. The use of homatropine is especially indicated in cases that do not suffer severely, and have no time to lose from their work.

Homatropine is not efficient in children. Atropine is the most desirable cycloplegic to use with children, and should be employed in most cases. It is by giving accurate corrections in these cases that intraocular diseases can be prevented that might incapacitate the patient for life.

Homatropine has an unrivaled field in elderly subjects for dilating the pupils for more perfect fundus examination. It is also to be commended in troublesome cases near or above the age of 40 in which a long cycloplegic action is not desirable, to enable one to detect slight degrees of astigmatism by means of retinoscopy. Oscar Wilkinson (Therapeutic Gazette, July 15, 1905).

BLOOD-PRESSURE OBSERVATIONS.

Both systolic and diastolic pressures should be taken, if any are taken, the method of Strassburger being sufficiently accurate for any but scientific investigations. The cuff on the instrument should be at least 12 centimeters wide. With the wide cuff, the normal systolic blood-pressure for the healthy adult male is nearer to 110 millimeters than it is to 130 millimeters Hg—this representing the normal in a patient who has been in bed for twenty-four hours or more. The chief value of blood-pressure observations lies in the lead they give in regard to indications for and results of treatment. In a few conditions they are of diagnostic value. In many conditions blood-pressure observations are of no practical value. C. E. Brush (American Medicine, July 15, 1905).

BREATHLESSNESS, ESPECIALLY IN RELATION TO CARDIAC DISEASES.

The author begins his paper by narrating a case in which he made the unusual diagnosis of atheroma of the right coronary artery tracing the conditions which led to this conclusion. The autopsy verified his argument. Aëration of the blood requires (1) that fresh air should freely enter the lungs; (2) that the blood should flow readily through the lungs, to be exposed in sufficient quantity to the air before it enters the circulation. If either process is stopped asphyxia may be produced; if either is interrupted the result will be breathlessness. The latter may signify either too frequent breathing, or painful breathing. Imperfect aëration leading to dyspnœa may be due to hindrance to the free passage of the air to and from the lungs or to hindrance to the free circulation of the blood through the lungs. Dyspnœa, like pain and fatigue, consists of two elements, the peripheral condition and the central sensation, and they generally bear a definite relationship to each other. These elements are probably chemical rather than mechanical. If they are produced too quickly or are imperfectly oxidized, hyperpnœa or dyspnœa results according to the quantity of the stimulant. With dyspnœa there is a tendency to diminish pulmonary circulation and to distention of the right side of the heart.

To facilitate the pulmonary circulation and thus lessen cardiac dyspnœa, the first essential is absolute rest. Next in importance is massage. This with the Nauheim baths is a most useful agent. A pill containing 1 grain each of digitalis, squill, and blue mass is very effective. Two grains of hyoscyamus are often added with advantage. Further, strychnine or strophanthus may be given, also oxygen, caffeine, and diuretin. Free purgation will often bring great relief by diminishing congestion, especially in the liver. If fluid has accumulated in the peritoneal or pleural cavities, or within the tissues, abstraction by needle punctures or by small incisions should be practiced. Opium is one of the most valued means of relieving dyspnœa. The diet should be such that fermentation will not occur. Lauder Brunton (Practitioner, June, 1905).

BRIGHT'S DISEASE, LAVAGE OF RENAL PELVES IN.

The writer considers that not enough importance has been given to the probability that a large percentage of cases of chronic nephritis, in whom no discoverable cause for the inflammation can be found, are really due to extension of inflammation from the renal pelves. Lavage of the renal pelves is only applicable in selected cases of nephritis, but it will certainly cure a beginning nephritis that is due to extension of inflammation from the renal pelves. Lavage of the renal pelves in subchronic and chronic parenchymatous nephritis will check the disease and markedly improve the general condition of the patient in those cases that have not reached the stage known as cirrhotic kidney. Lavage of the renal pelves for nephritis by one who is not properly trained in the technique cannot possibly improve the condition of the kidney and may do harm. Winfield Ayres (Medical News, July 1, 1905).

BRONCHITIS, CAPILLARY, TREATMENT OF.

The author ascribes a life-saving value to mustard water packs in many cases of capillary bronchitis where pulmonary circulation and the ingress of air is hindered by the swelling of the mucous membrane and the accumulation of inflammatory products in the bronchi. The remedy acts by drawing the blood to the surface, thus lessening the amount of blood to be moved and diminishing the obstacle due to swelling of the mucous membrane. The technique is described as follows: Five-tenths of a kilogram or more of mustard flour are sifted into an open dish containing 1.5 liters of warm water at 40° C. until irritating vapors are given off. (This is a little more than a pound of mustard in three pints of water at 104° F.) A linen cloth large enough to envelop the child is soaked in the liquid, wrung out, and spread out on a blanket of the same size. The naked child is laid on the mustard sheet, the upper edge on a level with the neck. It is drawn up, and over it the blanket is rapidly tucked around the neck and wrapped around the feet. This pack is left from ten to twenty minutes, according to the vitality of the child. When removed from the pack, the whole body is red. The child is quickly placed in a warm bath or sponged with warm water in order to remove the particles of mustard still adhering to the skin. It is then put in a second pack of lukewarm water and left from one to two hours, if possible, in order to maintain as long as possible the hyperæmia of the skin which has been secured. In many successful cases, the child looks like a scarlet-fever patient all day. While in the second pack, the temperature is liable to rise, and the child, therefore, should be under constant supervision, in order to interrupt the process if its head and face become red or as soon as it sweats thoroughly. A second warm bath is then given, and, in case the child is very hot, cold water may be quickly poured over it. The child is then wiped dry and left undisturbed for the rest of the day. Sometimes the crisis follows, with rapid convalescence, but more frequently a repetition of the process is required on the second or third day or later. It should not be applied, however, more than once in twenty-four hours. This process, like all others, fails in some cases. Where it is not successful in producing reddening of the whole surface of the skin it is better not to attempt to repeat it. O. Heubner (Therapie der Gegenwart, Bd. xlvi, Nu. 1; Journal of the American Medical Association, July 22, 1905).

BURNS, TREATMENT OF.

A large number of burns have been treated by the author by the "open method," that is, by leaving them exposed to the air. The healing occurs in one-third the time required by the occlusive method, the scars are not so distressing in appearance, and the patient does not suffer nearly so much pain. The author divides burns into four classes: Hyperæmia of the skin is considered a burn of the first degree; destruction of the epidermis shown by vesication, second degree; destruction of the derma, third degree; and of the deeper tissues, fourth degree. The author summarizes his advice as follows: First, the shock should be treated. Second, the pain should be controlled as necessary and everything kept from contact with the burned areas. Third, the patient should be kept surgically clean. Ordinary surgical principles govern here as elsewhere; bichloride of mercury, carbolic acid, and other strong antiseptics are to be avoided when possible, because they are such powerful cell poisons that toxic effects, both general and local, are to be feared; the delicate covering of granulations will not stand escharotic action without interfering with the production of smooth, flexible scars. Fourth, frequent cold sponge baths should be given to the sound skin with frictions, and the room temperature kept high. Fifth, the blisters should be cut away, cleansed with normal salt solution, thoroughly dried, and all second degree burns dusted with stearate of zinc, carefully wiping away serous exudate until dry, brown, adherent crusts are formed. Sixth, third degree burns should be left exposed without powder and the surface kept clean until granulations are ready for skin grafting. Seventh, to maintain and to preserve function, body and limbs should be exercised as much as possible; the eschars of burns to fourth degree should be removed when Nature so indicates and amputation should be performed when needed. Haldor Sneve (Journal of the American Medical Association, July 1, 1905).

CEREBELLAR TUMORS, SYMPTOMS OF.

The author lays emphasis on two symptoms which he thinks are overlooked as symptoms of cerebellar tumors. These are deafness and tremor. Deafness in these cases generally takes the form of impairment of hearing only and is unilateral, or at least more marked on the side of the lesion. Deafness may also be associated with tinnitus aurium. These auditory symptoms may precede by many months the pathognomonic symptoms of cerebellar tumor. In regard to tremor, the cerebellum is one part of the brain in which a tumor may give rise to an intentional tremor. The author gives the history of an interesting case in which there was a peculiar tremor which resembled that of disseminate sclerosis in being absent when the limb was at rest and supported, and becoming very evident on motion. J. M. Clarke (Bristol Medico-Chirurgical Journal, June, 1905).

CERVICAL RIB, SURGICAL IMPORTANCE OF.

While the supernumerary ribs of the lumbar vertebras have only an academic interest, those of the cervical region have a real practical importance. The observations of disturbances due to a cervical rib are multiplying every year. The anomaly may vary from a slight growth just extending beyond the transverse process to a complete rib with a cartilage uniting with that of the first rib. It is bilateral in two-thirds of the cases, but a complete rib on both sides is a rarity. When not complete, or nearly so, it may give rise to no special symptoms, and before the use of the Roentgen ray it was comparatively seldom diagnosed during life, and most of the reported cases were, therefore, accidentally discovered at autopsy. Even when it caused trouble, the symptoms were often credited to tumor or other causes than cervical rib. It is probably, therefore, a more common anomaly than might appear from the small number of cases reported. Though of congenital origin, it does not cause trouble until about the twentieth year, a fact that is hard to explain.

The principal symptoms of the anomaly are a hump-like prominence in the lateral cervical region, a superficial pulsation of the subclavian artery, and the appearance of pressure symptoms in the brachial plexus. The trouble is mechanical, and the treatment, when required, must be surgical. The author finds that a triangular flap incision, running directly downward along the trapezius and then conducted toward the sternum about an inch above the clavicle, fully exposes the field of operation. If the trapezius cannot be sufficiently retracted with a broad retractor, a transverse incision must be made into the muscle, for next to a strict asepsis, the success of the operation depends on extensive exposure of its field. The brachial plexus, which usually runs across the rib, can be pushed aside; the subclavian artery is best pulled forward. The scaleni are carefully divided at their points of insertion, and this is best done by using a Cooper shears and, advancing layer by layer, lifting the several muscle fibers with the flat of the scissors and using the instrument like a grooved director. By means of a ring-shaped periosteotome, the rib is then freed of any small muscular appendages. The division is easy with Beck's beak-shaped rib shears, but some may prefer the Gigli saw. Any remains are nipped off with rongeur forceps. Carl Beck (Journal of the American Medical Association, June 17, 1905).

CUTANEOUS SYPHILIS.

A number of cases are reported by the author which go to show that cutaneous syphilis may be closely simulated by a number of skin diseases. There are no absolutely characteristic syphilitic skin lesions. The elements of diagnosis in cutaneous syphilis have only an arbitrary value. The element of time is an unreliable factor in the diagnosis of syphilis. It may happen that simple sores with consequent swelling of the glands will develop in intervals corresponding to the periods of syphilis. The regionary lymphadenitis is not absolutely pathognomonic for syphilis. Adenitis of inguinal and cubital glands following infection of simple wounds may be seen which have the characteristics of syphilis, viz., they are indolent and indurated. The ensemble of all syphilitic symptoms, in exceptional cases, may be closely imitated by non-specific dermatoses. The diagnosis of syphilis can be made with absolute certainty only when based on positive as well as on negative findings, that is, when the characteristic elements of syphilis are not only found, but when all other skin diseases which may appear under the similar symptoms can be excluded with certainty. Fischkin (Journal of the American Medical Association, July 8, 1905).

DELIRIUM TREMENS, COLD AFFUSION IN.

The author describes the treatment that he uses in cases of delirium tremens. The patient is stripped naked and lies on a blanket over a waterproof sheet. A copious supply of ice-cold water is provided, and a large bath sponge dripping with the iced water is dashed violently on the face, neck, chest, and body as rapidly as possible. He is then rubbed dry with a rough towel, and the process is repeated a second and a third time. The patient is now turned over, and the wet sponge is dashed on the back of the head and down the whole length of the spine two or three times, vigorous friction with a bath towel being employed between the cold-water applications. By the time the patient is dried and made comfortable, he will be fast asleep. William Broadbent (British Medical Journal, July 1, 1905).

DELIRIUM TREMENS, INJECTION OF SALINE SOLUTION IN.

In discussing the treatment of post-traumatic delirium in alcoholic subjects, the writer states that the administration of wine or spirits in such cases can do very little good, and may even do harm. He is strongly opposed to the use of opiates or chloral in cases of delirium tremens, as such treatment really consists in adding one poison to another. Holding that the patient is under the influence of poisoning due either to the direct effect of alcohol or, as is more likely, to disturbance of the secretory functions caused by defective nervous action, it would seem more logical, the author suggests, to base the therapeutics of delirium tremens on the principle of eliminating the poisonous products. During the past eight years he has invariably treated his cases of delirium tremens by the subcutaneous injection of saline solution, and his clinical experience of this method has convinced him of its superiority over other plans of treatment. All depressing narcotics, such as opium, morphine, and chloral, should be rejected, and the only addition to the injections of artificial serum should, in cases of cardiac weakness, be an occasional injection of sulphate of strychnine. Quenu (Bull. et Mém. de la Soc. de Chirurgie de Paris, No. 18, 1905; British Medical Journal, July 29, 1905).

DENTITION, THE MEDICAL ASPECTS OF THE SECOND.

Rickets delays the eruption not only of the milk teeth, but also of their successors, in addition to frequently causing overgrowth of the jaw, with resulting malposition. A similar retarding influence is also exerted by cretinism. It is not probable that hereditary syphilis has any effect in hastening the advent of the second teeth, though all text-books generally assert that it has this effect on both sets of teeth. Eventually bad results as to integrity of the enamel often follow the exanthemata, bronchitis, pneumonia, and the nutritive disturbances which result from improper feeding. Alveolar abscesses in connection with the first teeth may lead to irregularities of their permanent successors. A frequent source of ill health is the incomplete detachment of the remnants of the first dentition. The teeth retain their adhesion to the alveolar mucosa long after the supplanting teeth have arrived. Food accumulates and decomposes at these points and sepsis results, the neighboring glands become swollen, though suppuration is rare. Possible outcomes are necrosis and cancrum oris.

As to the influence of dentition upon concurrent general disease, it may be said that the most obvious example seen is epilepsy in which tooth eruption initiates the onset and may increase the frequency of the attacks. Hysterical conditions and chorea may also be aggravated by coincident dentition. H. Armstrong (Lancet, June 3, 1905).

DIABETES, LOAF SUGAR IN.

The writer states that for some time he has been allowing the more intelligent of his diabetic patients to take a certain amount of loaf sugar, with very good results. In 88 per cent. of the cases it was found that after the regular consumption of 35 grams or over of sugar daily, the amount of glucose in the urine either did not increase or even decrease, while the general condition of the patients was much improved. Not only is the subjective effect on the patient excellent, but as the diabetic organism is deficient in albumins and fats, it is advantageous to have the carbohydrate metabolism increased as much as possible. A diet restricted to albumins and fats involves risk of insufficient oxidation of nitrogen and fats, with its danger of oxybutyric acid intoxication, and the possibility of coma, and the administration of sugar does much to avoid these perils. The sugar is best given in the form of sugar water or in coffee, shortly before muscular exertion, the rule being, no sugar without exercise and no exercise without a preceding sugar feeding. The author believes that the administration of large amounts of sugar under suitable precautions, is advantageous, if not in all cases, in at least 95 per cent. of diabetics. Both the actual strength and the feeling of energy are increased by this addition to the dietary. Oefele (Münchener medizinische Wochenschrift, May 23, 1905; Medical Record, June 17, 1905).

ERGOT, INTRAVENOUS INJECTION OF; EFFECTS ON THE MAMMALIAN CIRCULATION.

From experiments made by the authors, chiefly on dogs, the following conclusions were reached: The typical effects of the intravenous injection of ergot consist in a large and abrupt fall of blood-pressure, followed by a prompt recovery, and generally by a slight and short rise. The volume of the organs varies generally in the same direction as the blood-pressure. The changes in the latter are mainly cardiac. This is confirmed by myocardiograms from the intact and excised heart. Ergot causes first a lessening and then an increase of the excursions; both phenomena may occur while the ergot is being injected. The rate of the heart is but little altered. The effect of ergot must be exerted directly on the cardiac muscle. There is some oncometric evidence that ergot has a slight vasoconstrictor action, but this is inconstant and inconsiderable. There was no evidence of strong constriction or of a high rise of blood-pressure. The preliminary fall of blood-pressure is absent if the ergot is given by intramuscular injection.

The action of ergot is independent on the dose, within wide limits. The relative predominance of the fall and rise differ somewhat in different ergot preparations; age, however, does not impair the efficiency of their action on the mammalian circulation. The effects are greatly diminished by lowering the blood-pressure, by any method. Shortly after the destruction of the spinal cord, however, ergot produces a relatively good rise of pressure.

Large doses of ergot depress the vagus center and the vasomotor endings. It is not acutely fatal, even in very large doses. Torald Sollmann and E. D. Brown (Journal of the American Medical Association, July 22, 1905).

FRACTURE OF THE NECK OF THE FEMUR, TREATMENT OF.

Fracture of the neck of the femur occurs at any age, even in childhood. An injury at the hip, followed by persistent disability, should always suggest fracture, and if one is not expert in the details of physical examination, an x-ray picture should be procured if possible. As an impacted fracture must of itself cause disability, one should attempt to reduce it in the manner described by the author, provided efficient support can be assured.

The first essential in the treatment of complete fracture is to appose the fragments. For this purpose, direct traction under anæsthesia followed by fixation in the attitude of abduction seems to present certain advantages over the methods ordinarily employed. If union has not followed routine treatment, the open operation is indicated in suitable cases. Support and protection by properly adjusted apparatus is of great advantage during the period of repair, and in any event weight-bearing should not be permitted until the symptoms indicate that the consolidation is complete. The distinction between the two forms of fracture that occur in young subjects is of importance as influencing treatment. It seems probable that in the majority of cases treatment may be applied, tentatively at least, with advantage. The standard of success in treatment of the most favorable cases should be restoration of normal function, and in all one should at least attempt to apply the principles that are recognized as essential to success in the treatment of fractures in other situations. Royal Whitman (American Journal Medical Sciences, July, 1905).

FURUNCLES AND CARBUNCLES, NEW LOCAL TREATMENT FOR.

The use of the electric current is advised in the treatment of furuncles and carbuncles. If no pus formation has taken place the opening of the infected follicle is sought for with a magnifying glass, and when found, an epilating needle, forming the minus pole and carrying a current of 12 milliampères is introduced into it. The current is gradually increased up to 10 milliampères and the opening enlarged by moving the needle about so that the hydrogen generated can wash out all bits of necrotic tissue, pus, etc. The needle is then removed and reintroduced after reversal of the current, so that the oxygen which is now generated shall thoroughly disinfect the follicle, after which a final cleansing of the cavity is carried out by means of another minus treatment. Every suspicious follicle is treated in this way and the development of true furuncles is aborted. If pus has already formed the cavity is explored with a larger needle until the entire necrotic plug has been broken up and expelled by the nascent hydrogen. As long as suppuration keeps up, the procedure must be repeated twice a day. Wet dressings of plain water are applied, and it is surprising to see even large furuncles clear up under five or six days of this treatment. Of course, if there is extensive swelling or phlegmonous inflammation, incisions must be made as usual. Marcus (Münchener medicinische Wochenschrift, May 23, 1905; Medical Record, June 17, 1905).

GALL-BLADDER, RUPTURE OF THE.

Rupture of the gall-bladder should be suspected in all abdominal injuries and localized tendencies about the hepatic tract. When there is any indication of such condition the abdomen should be opened as soon as possible. Concretions and abdominal fluid should be removed from the peritoneal cavity, preferably with gauze. Cases in which the peritoneal cavity should be irrigated with water alone, or in combination with salt or other medicaments, are few, if indeed they ever exist. The condition of the common duct should, if possible, be determined at time the abdomen is opened. If the common duct is occluded by neoplasm the gall-bladder should be sutured to the duodenum. If a concretion is found in the common duct it should be removed at the primary operation, and drainage provided for. Free drainage should be resorted to by suturing the gall-bladder to the abdominal wall, or, if this cannot be done, by inserting gauze packing. B. M. Ricketts (St. Louis Medical Review, July 8, 1905).

GASTRIC INTOLERANCE IN YOUNG CHILDREN.

The writer remarks the occurrence of marked gastric disturbances in children without intestinal manifestations. Three causes are distinguished: dyspepsia, acetonæmia, pyloric stenosis. The therapeutic indications are nearly the same in all. To arrest the emesis only water should be allowed at first—ice-water—a teaspoonful every half-hour, and hot applications to the epigastrium. Lavage may sometimes be necessary, and injections of artificial serum may be employed. When vomiting has become frequent, vegetable broths, salted, are allowed. When emesis has ceased, a bouillon, containing a coffeespoonful of farina to each three ounces, is given, to which, after a few days, a little milk may be added, and if well borne it may be gradually substituted for bouillon. The quantity of sugar in the milk must be carefully regulated. If the milk is not tolerated, the vegetable broth must be returned to, and after a few days buttermilk tried. If these means fail and pyloric stenosis is suspected, the case becomes one for the surgeon. M. E. Terrien (Le Bulletin Médical, No. 11, 1905).

GASTRIC SECRETION.

The writer's observations show that it is probable that, in the process of absorption of digested food in the stomach, a substance may be separated from the cells of the mucous membrane which, passing into the blood or lymph, later stimulates the secretory cells of the stomach to functional activity. An extract of the fundus mucous membrane in 5 per cent. dextrin injected into the jugular vein does not cause any secretion of gastric juice, while a similar extract of the pyloric membrane does cause such a secretion. Boiling the extract has no effect on the action of this gastric secretion. Such absorption as occurs in the stomach apparently takes place in the pyloric end. J. S. Edkins (Lancet, July 15, 1905).

GONORRHŒA IN THE FEMALE.

In vulvo-vaginitis the author recommends copious injections twice a day of 1 to 2000 to 1 to 4000 potassium permanganate, or of mercury bichloride 1 to 2000, followed by a dressing of 5 per cent. ichthyol or 25 per cent. thigenol in glycerine. Resorcin, in doses of 15 grains, may be given internally. Twice a week silver-nitrate solution should be used to swab the inflamed mucous membrane, and following this, a powder of alum, 3 parts; tannin, 2 parts, should be insufflated. Frequent bathing and other hygienic means should be employed. If there is complicating metritis, dressings of ichthyol, 10 parts; iodoform, 5 parts; glycerine, 200 parts, should be used. Local applications of tincture of iodine or of zinc chloride, 1 to 50, may be employed, and intra-uterine injections of about 1½ ounces of either of the following solutions: alumnol, 2½ parts; tincture of iodine and alcohol, each 25 parts; or dermatol and gum arabic, each 2 parts; water, 25 parts. Intra-uterine bougies of dermatol, 8 grains; lanolin, 150 grains; white wax, 30 grains, are useful, as are tampons of beer yeast, which act by liberation of lactic acid. Urethritis should be treated by the balsams, the alkalines, and by irrigations of silver-nitrate or protargol solutions, a 1 per cent. aqueous solution of thallin sulphate. L. Archambault (Journal de Médecine de Paris, No. 9, 1905).

HYPEREMESIS GRAVIDARUM, TREATMENT OF.

The writer reports a case of protracted incoercible vomiting during the third month of pregnancy, persisting for weeks even after entire suspension of food or medicines by the mouth. The uterus was in pronounced ante-flexion. After failure of all other measures, and as a partial preliminary to artificial abortion, a colpeurynter was placed in the vagina just beyond the entrance and moderately filled, thus lifting the uterus by pressure from below. The result was the immediate suspension of the vomiting; the patient was soon able to take a little milk. The colpeurynter was removed at night, but on recurrence of the vomiting was replaced the next morning, with the same successful result. It was removed again at night and there was no further trouble, the pregnancy progressing to a normal termination. R. V. Uhle (Centralblatt für Gynækologie, Bd. xxix, Nu. 24, 1905; Journal of the American Medical Association, July 15, 1905).

INEBRIATE MANIAS.

The continuous drinker of spirits in active life is cultivating a soil for the growth and development of distinct psychoses, which may break out at any time. One of the most common of these symptoms is delusions of infidelity. They are practically symptomatic of the particular cause, alcohol. Delusion of persecution and delusions of grandeur, together with manias of various kinds, are natural sequels of alcoholic degeneration and should receive the most careful study. All such persons are irresponsible—to what degree the facts of each case will determine. The medical man should recognize this condition and be emphatic in his statements, and never minimize or neglect to recognize the gravity of these states. T. D. Crothers (Medical Record, July 1, 1905).

INFANT FEEDING.

Mother's milk is the only proper food for an infant, and should be used whenever available. All forms of proprietary foods are bad and to be avoided. Wet-nursing is rarely permissible. The proper substitute food for an infant is some form of modified cows' milk. The standard to be aimed at is the child's natural food—mother's milk. Careful attention must be paid to each of the constituents—proteid, fat, sugar, and salts. The proteid of cows' milk is less digestible than that of human milk, and requires over-dilution compared with the standard. The whole of this indigestible proteid (caseinogen) may be removed, leaving the more easily digestible proteid (lactalbumin) as in whey mixtures, or the proteid content may be completely or partially peptonized. Cows' milk diluted sufficiently to bring the proteid into line with the standard (from 4 per cent. to 1.5 per cent.) is deficient in fat and sugar, and these must be subsequently added. Fat may be added in the form of cream, either separated and of standard strength, or by using gravity creams. Lactose is the proper sugar to add. Cows' milk, although neutral or alkaline when drawn, owing to its certain infection as at present obtained and to the rapid growth of germs it allows, becomes acid, and this acidity must be neutralized by bicarbonate of sodium or lime water. Human milk is sterile, therefore some attempt must be made to kill germs always present in large quantities in cows' milk. Boiling does this most effectually and rapidly, is much the easier method, and, in the hands of the poor, often the only method available, but certain injurious changes result, to be avoided if possible. These changes can best be avoided at 70° C. (158° F.) for half an hour (pasteurization). All infants' food should therefore undergo this process when possible. T. G. Sanderson-Wells (British Medical Journal, July 8, 1905).

IODINE AND IODIDES, CHANGES IN THE BLOOD OF CHILDREN DUE TO.

Injections of a solution of iodine and potassium iodide according to the method of Durante have not only a local effect upon tuberculosis processes, but have a general action upon the blood-forming organs. These injections give rise to a leucocytosis in which the mononuclear form prevails. This lymphocytosis represents the reaction of the organism which defends itself by means of the phagocytic action of the white cells. The latter act directly upon the tubercle bacilli, hindering the spread of the infection and neutralizing the action of the toxin. The author, therefore, advises the use of Durante's method of injecting iodine and potassium iodide in the region of tuberculous glands, etc., in children. The blood of each child was examined before and after the injections. The treatment consisted of daily injections of 1 cubic centimeter of the solution of potassium iodide and iodine, as recommended by Durante, thirty injections constituting, as a rule, a course of treatment, after which the blood was once more examined. A. B. Gianasso (Riforma Medica, May 27, 1905; New

York Medical Journal and Philadelphia Medical Journal, July 15, 1905).

JOINT INJURIES, FUNCTIONAL IMPOTENCE FOLLOWING.

In every case of functional impotence consecutive to a traumatism of the joints, it is necessary to remember that spinal disease may be associated with the disease of the joints, reflex amyotrophy being the manifestation which is the most apparent and the best known. To the well-known symptoms of reflex atrophy, including atrophy, paresis, spasmodic phenomena, diminution of galvanic and faradic excitability without the reaction of degeneration, must be added diminution of electrical resistance in comparison with the unaffected side. Reflex amyotrophy is usually fatal in its results when an effusion of the joints is developed. All degrees of involvement are possible, from simple paresis to complete paralysis. Pathological anatomy as well as experimentation have demonstrated that the principal medullary lesion consists in a diminution of the large motor cells in the anterior horns. In the nerves and muscles, in the midst of healthy elements there may be degenerated sensory nerve cords pertaining to the joints, degenerated motor fibers, atrophied muscular fibers, forming the lesions of the reflex arc, and sustaining the theory of Vulpian and Charcot. Centripetal excitation referred to the joints, which may change the motor cells of the anterior horns, may also change the other trophic centers which preside over the nutrition of the other tissues or circumarticular organs. The medullary lesions are in two different forms or degrees. The idea of reflex amyotrophy of articular origin should hold an important place in general surgical pathology, for it explains the pathogenesis of a great number of joint diseases. There is no necessary relation between the intensity of the articular affection and the gravity of the reflex amyotrophy which it causes, but the more articular irritation is prolonged, the more incurable are the medullary lesions. Reflex amyotrophy is always more severe in its significance for the lower extremity. The more curable the articular lesion, the more curable the reflex amyotrophy. Should the former become chronic the latter will be incurable.

Electrical exploration enables one to determine the prognosis of reflex amyotrophy. It becomes the more grave as the galvanic excitability is diminished, comparing it with the unaffected side. The benign form of reflex amyotrophy may be treated by faradism or static electricity. Should the spasmodic phenomena become prominent, localized faradization would be injurious. Static electricity in its sedative form would be more appropriate. In the incurable forms static electricity is useful to relieve the spasmodic and painful symptoms. Such symptoms contraindicate all treatment which may be violent or forcible. The spasmodic phenomena, including exaggerated tendon reflexes, exaggerated mechanical excitability of the muscles, rapid fatigue with contractures, form the practical guide to the proper direction of treatment. Mally and Richon (Revue de Chirurgie, May, 1905; New York Medical Journal and Philadelphia Medical Journal, June 24, 1905).

LEPROSY, CURE OF.

The writer believes leprosy, like syphilis and tuberculosis, is curable, according to the degree of infection and body resistance. No early case has failed to respond to his treatment and a certain number have recovered. The only remedies which have given him results are strychnine, antivenomous serum, chaulmoogra oil, and chlorate of potash. The oil more nearly approximates a specific for leprosy than any treatment as yet suggested. Full diet is best, restricting only indigestible foods. Hot baths twice daily, with or without soda, are essential. Tonics and febrifuges are needed. The patient should be watched for intercurrent affections. Strychnine is a *sine qua non.* Chaulmoogra oil is better endured before than after meals and should be given in capsules, hot milk, or milk of magnesia, beginning with 3 drops and slowly increased to 120 or 150 drops. It may be combined in pill with nux vomica and ordinary excipients. One patient, now well, did not show improvement for two years. Treatment should be continued after all evidence of disease is gone. Isadore Dyer (Medical News, July 29, 1905).

LIGATURE OF THE INNOMINATE ARTERY.

In properly selected cases ligature of the innominate is a reasonably safe and undoubtedly useful operation. Suitable cases are those in which the aneurism is of a circumscribed, globular character, and the general condition of the patient is otherwise good. Unsuitable cases are those in which the aneurism is what is commonly called fusiform, but is really often nothing more than part of a general arterial dilatation, and in which there are marked signs of general arteriosclerosis with accompanying visceral disease.

The maintenance of asepsis is the main factor in obtaining a successful result. The incision should be central with horizontal and vertical division of the manubrium, if necessary. The carotid should be tied as well as the innominate. Silk is the best ligature material. Some amount of injury to the inner coats is probably necessary to insure occlusion, but with aseptic conditions such injury does not matter.

Two ligatures should if possible be placed round the vessel, the first turn of the proximal ligature being held tight, so as to keep back the blood while the distal ligature is completely tied. The use of a drainage-tube is inadvisable.

As a study of the recorded cases shows that, next to sepsis, some cerebral lesion has been the most frequent cause of death after operation, it would be well for future operators to consider the advisability of tying the carotid about a fortnight before the innominate. "Valsalvan" methods of treatment immediately prior to operation are inadvisable. William Sheen (Annals of Surgery, July, 1905).

MOVABLE KIDNEY, TREATMENT OF.

Nephrorrhaphy should not be recommended in cases in which the symptoms referable to the mobility of the kidney are a small part of the trouble. In movable kidney complicated by enteroptosis an operation should not be recommended unless it can be shown that serious symptoms are directly due to the displacement of the kidney. If movable kidney is associated with a nervous temperament, palliative measures should be exhausted before an operation is suggested. If dyspepsia, constipation, uterine or ovarian disease, or chronic disease of the kidney have long coexisted with the mobility, nephrorrhaphy should not be performed. If the displacement does not cause much discomfort or functional disturbance, nephrorrhaphy should not be recommended.

Nephrorrhaphy should be recommended in uncomplicated cases in which the pain is distinctly renal, and in which there are definite renal crises; if there is evidence of twisting of the pedicle as shown by paroxysmal renal pain, and albumin, pus, blood, or tube casts in the urine; if gastro-intestinal symptoms are pronounced while the patient is active, but are relieved during periods of rest. Newman (Glasgow Medical Journal, July, 1905).

MUSCLES, PRODUCTION OF ALCOHOL AND ACETONE, BY THE.

An explanation of a possible source of some of the acetone that may accumulate in the blood in pathological conditions, is afforded by the research of the writer, who finds that a muscle removed from an animal and placed under conditions favorable for survival, produces both acetone and alcohol. The former constantly increases, but the latter increases only for the first few days, and then diminishes. The tissues are able to destroy alcohol after it is formed, but have no influence over the molecule of acetone. The alcohol is probably transformed into acetic acid by a direct or an indirect oxidation. The acetic acid then undergoes the fate of all other organic acids in the body, namely, a transformation by oxidation, into carbon dioxide and water. The transformation of glucose into alcohol may be considered a mode by which the body is able to destroy glucose. F. Maignan (Comptes Rendus, April 17, 1905; Medical News, August 12, 1905).

NASAL HEADACHE.

Two general causes of headache, partial or complete stenosis, and acute or chronic sinusitis, are considered by the author. In intractable headache of any form the nose should be carefully inspected. In acute empyemas headache is almost always present; in the chronic forms it is less frequent. The order of frequency is frontal, occipital, vertical. The varieties are similar to those from other causes, neuralgia or hemicrania predominating. Usually the pain is constant in its relation, changing its position when other intranasal tissues are consecutively involved. The intensity varies with the severity of the local disorder and the general condition of the patient. If portions of the nasal interior are in contact, neuralgic headache results. Stenosis produces frontal pain and weight, while the most violent and constant pains result from pressure in the accessory sinuses. In chronic obstruction from any cause, especially hypertrophy of the turbinates, headache is a common symptom. Severe epistaxis is often preceded by congestive headache. If the bleeding is profuse the headache may follow it. In headache from sinusitis in general more than one cavity is usually involved. There may also be nasal disease, with or without suppuration and with intermittent headache, to which, however, it has no direct relation. Somers (Medicine, July, 1905).

NEPHROPTOSIS.

Dislocated kidney is of far more frequent occurrence than ordinarily supposed or diagnosed. It should be carefully searched for in all cases complaining of abdominal symptoms. It is a potent factor in the causation of neurosis and is the cause of many cases of obstinate indigestion. It is a prime factor in the production of various bodily crises, the latter being the result of toxic absorption from imperfect elimination, and having their origin from either the stomach, intestines, kidneys, or liver. It may be the result of any lesion, either local or general, which will vitiate the vitality of the peritoneum, thereby weakening that organ so that there is continued loss of peritoneal tone and therefore a decrease in intra-abdominal resistance, tension, and support. It produces ulcer of the stomach and duodenum; it handicaps the activity of the cholecyst and obstructs the duct of the latter; it produces typhilitis, perityphilitis, appendicitis, colitis, and localized or general peritoneal inflammations, with adhesions; it is a powerful factor in the production of a general loss of vitality. Obstinate constipation, with the accompanying traumatism produced by the violent peristalsis of drastic catharsis, is one of the chief causes of dislocated kidney.

Any operative interference calculated to correct a dislocated kidney must be one which has for its primary object a reattachment of the peritoneum to the back, a shortening of peritoneal elongations, and a reëstablishment of the normal anatomical relations and positions of the abdominal viscera. Earl Harlan (Lancet-Clinic, July 22, 1905).

OPTIC NERVE, INJURIES OF THE.

Five cases of indirect injury of the optic nerve are reported by the writer. The sequence of events was as follows: A more or less severe blow in the region of the external angular process of the frontal bone. Sudden impairment of vision on the side of injury. Loss of the greater part of the temporal field of vision on the same side. Absence of ophthalmoscopic changes for the first few weeks, followed by atrophy of the nerve head on the injured side. Central vision may be almost completely restored, but the limitation in the field of vision remains practically and permanently the same. The nature of the lesion is very problematical, but it is probably one of limited contusion of the nasal fibers of the optic nerve by *contrecoup.* The nerve on the side of the injury is driven against the inner boundary of the optic foramen.

The treatment should consist of rest and quiet in a darkened room, light diet, and aperients for a week or two, and avoidance of work and mental excitement for a further period of two or three weeks. J. J. Evans (British Medical Journal, July 8, 1905).

PELVIC OPERATIONS, INFLAMMATORY CONDITIONS OF APPENDIX IN.

In a large number—in the present series in 323 out of 370—of pelvic cases no inflammatory changes in the appendix are found, even microscopically. When a normal appendix is found in conjunction with disease of the pelvic organs, it is improbable that the latter condition has been brought about by a perforation of the appendix which had afterward healed. On the other hand, an old periappendicitis and adhesions may often be looked upon as the result of a septic infection, originating in, and spreading from the organs of generation. An appendix which looks abnormal macroscopically does not always show inflammatory changes on microscopical examination. Nevertheless, when the removal of the appendix adds very little to the gravity of the abdominal operation, for the benefit of the patient it should be taken away. In the writer's series of 370 cases there were four deaths, but a careful analysis goes to show that the fatality could in no instance be attributed to the removal of the appendix. Hunter Robb (St. Louis Medical Review, July 8, 1905).

PERINEPHRITIC ABSCESS.

This disease is frequently caused by pyonephrosis, pyonephritis, or stone in the pelvis or the parenchyma of the kidney. It may also result from inflammatory processes of the stomach, duodenum, small intestines, or colon. Disease of the liver and gall-bladder, or of the bile ducts may also act as a cause. Inflammation of the psoas muscle and vertebral column causing this form of abscess are usually of a tuberculous nature. Other causes are perimetritis or parametritis, appendicitis, oöphoritis, cystitis, orchitis, inflammation of the vas deferens, inflammatory processes in the lower extremities, or ruptured empyema. Acute infectious diseases, in which the bacteria are in the blood, or are capable of invading the body, as a whole, through the blood or lymphatic circulation, have important causative relations to this disease. The infecting agent may be carried by the urine in scarlet fever, in recurrent, relapsing, or typhoid fever, and malaria. Within four hours after experimental injections containing bacteria the latter may be found in the urinary tract. This has been found true of coli communis, staphylococcus pyogenes, streptococcus, pyocyaneus, proteus, gonococcus, typhosus, tetragenus, and diplococcus of Friedländer. Therefore, any germ capable of producing inflammation or pus when it has entered the blood may be eliminated by the kidney, and may produce lesions of the kidney substance, or of the mucous lining of the pelvis, ureters, and bladder. They are thus brought into proximity with the perinephric fat, into a region directly connected by lymphatics with this fat. Perinephritic abscess has been found after small-pox, typhoid fever, scarlet fever, puerperal fever, diphtheria, actinomycosis, metastatic infected wounds, and abscesses in various parts of the body. The symptoms are those of sepsis and vary with the type of the infection. There may be difficult defecation, general debility, dyspnœa, vomiting, and a mass in the lumbar region unaffected by respiration. The urine is unchanged. It is more frequent in males than in females, and there may be fluctuation. It should be differentiated from nephritic abscess, hydronephrosis, appendicitis, and hip disease. The treatment consists in incision, and cleaning and draining the cavity. Bryan (International Journal of Surgery, June, 1905).

PERTUSSIS, TREATMENT OF.

Prophylaxis is believed by the author to be the first essential, and entails avoidance of contact with whooping-cough patients, schools and kindergartens being closed during severe epidemics. Disinfection of sputa and excreta is advisable, and good results in cutting short the disease have been reported by fumigation of the patient's room with sulphurous acid. Of the drugs to be used, quinine stands foremost, and it may be given three times a day, as many decigrams as it is months old. Camphor is useful, but the coal-tar products are less favorable than quinine and are frequently dangerous. Careful dieting is necessary, and it is desirable to give small amounts of concentrated food at short intervals to avoid overflowing the stomach. For the paroxysms, belladonna and opium, and moral suasion are advocated. The author reports encouraging results attending the use of the elastic abdominal belts recommended by Kilner for the purpose of controlling the vomiting and reducing the number and violence of the paroxysms. J. B. Tyrrell (Medical Record, July 22, 1905).

PNEUMONIA, LOBAR, ICE APPLICATIONS IN.

The writer outlines as follows a method of treatment that he claims to have used for a number of years with great success in lobar pneumonia: As soon as a diagnosis is made, the patient is given a full warm bath for cleansing purposes, put to bed, and given a laxative dose of calomel and soda. The chest area of the lung tissue involved is carefully outlined, and one or more, as required, specially constructed ice-bags are moderately but evenly filled with crushed ice and applied accurately over the parts inflamed. Each bag is wrapped in a thin layer of gauze and is furnished with a drainage pipe, the lower end of which empties into a basin below the bed. The main and important feature is this draining off the water as fast as it is formed, thereby establishing constant and uniform ice application and utilizing the remarkable heat-absorbing quality of melting ice. Examinations are made each morning and evening, and the ice applications adapted to the changing areas of involved lung. There is no danger, the author claims, to the vitality of the parts, and the ice applications are kept up as long as the disease appears to be progressing and no threatening signs of collapse appear. In the latter event, ice applications are promptly removed, and stimulation is at once resorted to. The internal treatment throughout the disease, aside from stimulants, includes free use of some milk, alkaline mineral water, and 5 to 15-drop doses of creosote every four hours. The bowels are regulated by saline laxatives and enemas, the diet is guided by the digestive capacity, and free ventilation of the sick room is secured. It is claimed that this treatment lowers the pulse while regulating and strengthening the heart, relieves respiratory difficulty and chest pains, and shortens the duration of the disease in the majority of cases. If begun within the first twelve hours, the disease may be aborted. P. A. Aurness (American Medicine, June 3, 1905).

PNEUMONIA, LOBAR, IN INFANTS AND CHILDREN.

The pneumonia of infancy and childhood as compared to that of the adult presents certain differences in its course which should impress the physician. In certain epidemics, meningeal symptoms seem to predominate, especially in those cases in which the apices of either lung are involved. In other epidemics, pneumonia with meningeal symptoms is not so frequent. In children, pneumonia is more apt to be followed by purulent pleurisy, especially below the age of 4 years, than by pleurisy with effusion, as in the adult. During fifteen years the author saw 839 cases of pneumonia of all kinds and types. Of these cases 582, or 69 per cent., occurred before the end of the first two years of life. Of the 839 cases mentioned 436 occurred in male and 403 in female children. The right lung is most affected, and the upper lobe of the right lung, rather than the lower lobe of the left lung, is mostly involved.

The prognosis of lobar pneumonia in infants and children will vary as to the age, severity, and kind of infection, as to the amount of lung involved, and the presence or absence of complications. Generally speaking, the prognosis as to age is best below 10 years. The younger the child, the greater the danger. The season of the year also influences mortality. In the winter months, when the epidemic is at its height, the mortality is greatest, and in the spring and summer months it is lowest. This is due, possibly, to the great virulence of the infection. Complications also influence the prognosis. In infants and children a complicating pericarditis is fatal. Other complications, such as otitis, pleurisy, empyema, do not materially influence the prognosis in infants and children if recognized early and treated on sound principles. Lobar pneumonia, being an acute infectious disease, absolutely self-limited in its course, uninfluenced by any mode of specific treatment that is known of, it should be the duty of the physician to manage a case of lobar pneumonia in an infant or child very much on the same principles as he would manage a case of any other infectious disease, such as typhoid fever, with a certain allowance for the duration of the disease and the severity of the infection. H. Koplik (Boston Medical and Surgical Journal, June 29, 1905).

PNEUMONIA, PROGNOSTIC VALUE OF PHOSPHATES IN THE URINE IN.

The author's researches, involving a study of 25 cases of pneumonia in both sexes, showed that in almost all of these patients there was a more or less marked diminution of the total amount of phosphates in the urine. The earthy phosphates did not suffer such a marked diminution, and of these, magnesium phosphate was diminished in amount, although it never disappeared entirely, while calcium phosphates remained unaltered. The alkaline phosphates, however, were subject to variations parallel with those of the disease. During the first few days they diminished, and they almost disappeared during the most acute stage in most patients. When resolution began, the phosphates again increased gradually until recovery was complete. This return of the phosphates preceded the crisis by half a day or a day, while the absence of chlorides still persisted. In three of the cases observed, this diminution of phosphates was absent. Of these patients, two died, and in one resolution was retarded for some time. It seems that the diminution of phosphates is a normal occurrence in the course of pneumonia, and that in these cases the course was abnormal. The persistence of phosphaturia during the acute stage of pneumonia may have the opposite meaning from that occurring after the crisis. A large number of cases must be observed in order to establish this law, but it is worth while investigating this question further. Sicuriani (Gazzetta degli Ospedali e delle Cliniche, April 9, 1905; New York Medical Journal and Philadelphia Medical Journal, July 8, 1905).

RHEUMATISM OF THE FEET.

The author states that among the patients seeking relief at an orthopædic clinic, probably the most frequent complaint is "rheumatism of the feet." There is no "rheumatism of the feet." One of the commonest affections giving rise to pain in the feet is flat foot. Another is anterior metatarsalgia, or Morton's toe. Gonorrhœal arthritis or periarthritis of the ankle has often been observed, and the author says that there is a form of gonorrhœal infection characterized by extreme sensitiveness about the sole, to which he gives the name of gonorrhœal foot. The pathology of this affection is still a matter of doubt.

Hysteria may simulate rheumatism of the feet, and tuberculosis of the ankle and tarsus must also be carefully excluded, as any circumscribed, persistent, painful swelling in the foot, especially of a child, is to be viewed with extreme suspicion. The sequelæ of fractures, and the pains of late syphilis or of locomotor ataxia must also be kept in mind. Gout and acute rheumatism itself close the list of such affections, and it is pointed out that acute articular rheumatism never leaves behind it a damaged joint. The treatment of these conditions is briefly outlined, the chief adjuvants required being zinc oxide plaster, plaster of Paris, a few drugs, and some assistance from the bracemaker and shoemaker. L. W. Ely (Medical Record, August 5, 1905).

SALT SOLUTION, PHYSIOLOGICAL VALUE OF, IN CIRCULATORY FAILURE.

From an experimental study of the subject of the use of physiological salt solution in therapeutics, the following conclusions appear to the author to be justified by the evidence obtained: The injection of a .7 per cent. solution of sodium chloride in any quantity up to four times the total volume of the blood has no effect upon the blood-pressure in the normal animal. When the quantity of fluid injected is not more than the total volume of the blood, the greater proportion of the fluid apparently remains in the vessels for a considerable period of time, the pressure in the arteries being kept at the normal height probably by vascular dilatation. When the quantity of injected fluid is greater than the total volume of the circulation, the excess escapes very rapidly from the vessels. This excess does not pass out through the kidney, at least for some time after the injection. A very large amount of the fluid escapes into the gastro-intestinal tract; some apparently also leaks through the vessel walls, especially into the lungs, giving rise to pulmonary œdema. In conditions of low pressure, due either to hæmorrhage or to vasomotor paresis, and sometimes in that caused by depressant poisons, the injection of physiological salt solution is capable of increasing the arterial pressure to a point approximately normal. In the great majority of instances this rise is permanent, although in one or two cases, for some reason not determined, it lasted but a few minutes. The rise produced by salt solution is brought about through purely mechanical influence. The subcutaneous injection produces an elevation of blood-pressure in conditions of circulatory depression, but it is much slower in its action than the intravenous infusion. An effect from hypodermoclysis may be expected in about half an hour.

No distinct difference in the immediate effects are demonstrable between solutions containing .5 per cent. or .7 per cent. of sodium chloride, nor do variations in temperature between 86° to 112° F. apparently affect the results. H. C. Wood (Transactions American Therapeutic Society; Boston Medical and Surgical Journal, July 6, 1905).

SEPTIC PERITONITIS, DIFFUSE, DRAINAGE IN.

Operations for diffuse septic peritonitis should be made as quickly and with as little manipulation as is compatible with thoroughness. Evisceration, partial or complete, greatly increases shock and the prospects of a fatal result. The generous use of clean, hot water will most thoroughly cleanse the infected cavity with the least traumatism. Drainage is simplified by collecting the peritoneal fluid at one point where drains may be easily placed. The elevated head and trunk posture followed by the gravitation of fluid to the lower pelvis best accomplishes this. Results following the surgical treatment of diffuse septic peritonitis will be improved should each individual operator adopt some definite form of procedure in such cases, which, being well understood by operator and assistants, may be methodically, speedily, and thoroughly carried out. Van Buren Knott (Annals of Surgery, July, 1905).

STRABISMUS, CONVERGENT.

From a careful study of 150 records, the author concludes that esotropia is most likely to manifest itself before the end of the third year. It cannot yet be said whether any of the various reasons assigned by parents for the appearance of strabismus have aught whatever to do with it. Whooping-cough may be related to it. Heredity certainly plays a part in bestowing upon some children a congenitally deficient visual apparatus. The degree of deviation will average about 30° in a large number of cases. It is in no special way bound up with the degree of refractive error.

The amblyopia of esotropia is presumably an amblyopia exanopia, the present day evidence being against Schweigger's theory of a congenital amblyopia. The degree of amblyopia increases with the length of time elapsing between the appearance and the time of treatment; especially is this true after the seventh year.

Improvement may be expected in the amblyopic eye in 50 to 60 per cent. of cases by properly adjusted glasses. This improvement varies from 20 per cent. to ninefold betterment.

While a defectively developed fusion apparatus has much to do with the genesis of esotropia, the influence of hypermetropia and its allied states seems almost as important as in the days of Donders. The part played by astigmatism is no little one. There seems to be no special relation between the degree of refractive error and the degree of deviation.

Hypermetropic conditions of from one to four diopters seem most commonly associated with estropia. A very high degree of hypermetropia does not necessarily exclude strabismus, as three cases in the present series were of 11 D. and over.

If taken before the fifth year, there seems no reason why the strabismus should not be cured by non-operative methods in 70 per cent. of cases. This percentage will, in all probability, be increased to 80 per cent. in the next ten years. The results of non-operative treatment in children, if adhered to with any persistence, are infinitely better than any "scissors" statistics thus far offered. Wendell Reber (Pennsylvania Medical Journal, July, 1905).

TABES, PRINCIPLES OF THE EXERCISE TREATMENT IN.

The greatest discrimination is necessary in the application of this form of treatment for, improperly used, it is a source of more harm than good. The mistake must not be made of confusing simple muscular exercise with the practice of coördination, and the author also warns against the use of massage for tabetics. All coördinated actions must be learned by the individual, and if the power of coördination has been lost, every muscular act must be learned over again just as a child does it. The usual steps of each movement must be separately rehearsed until the ataxia is reduced sufficiently to permit the whole to be attempted. As the ataxia is due not to loss of muscular power, but to deficient sensibility, if a tabetic learns to perform a coördinated action which had become impossible, it means that the centers have become educated to get along with a subnormal degree of sensibility. In teaching a tabetic to walk, for example, a great deal of practice is needed to produce the proper coördinated movements of the trunk muscles which precede every step. As the sense of fatigue is greatly diminished, the patient's sensations are no guide as to the length of the time exercises may be kept up, and it is well to restrict them to two sessions a day each, of not more than five to fifteen minutes. The pulse-rate also rises rapidly during the exercise, and it is advisable to wait after each movement until the rate has become normal again before going on to the next exercise. The prognosis of the disease is greatly improved by the judicious employment of the principle of reduction, and the author believes that the atony of the abdominal muscles and intestine, cystitis, paraplegic forms, etc., have been reduced in frequency since its introduction. Fraenkel (Berliner klinische Wochenschrift, June 5, 1905; Medical Record, July 1, 1905).

TETANUS.

The authors give a preliminary report of their statistical study of 1201 cases of tetanus, collected from the literature and by direct correspondence, with special reference to the incidence of the disease in the United States. They find convincing proof that tetanus is invariably the result of the introduction of the germ, and that the so-called rheumatic and idiopathic tetanus does not exist. They also find that it is endemic in all large centers of population, that in some localities where it was formerly common, it has become rare, and that occasional small epidemics, traceable to a definite source, occur in limited localities. Tetanus is more prevalent in the hotter part of the year, males are more subject to it than females, and it is less frequent in advanced age. The robust are more susceptible than the weak, and the nervous than the lymphatic. There is much evidence that the disease is transmissible and may give rise to epidemics. The germ, Nicolaier's bacillus, is rarely introduced by the alimentary tract, but usually through open wounds, all parts of the body being very susceptible. The diagnostic importance of the tonic contractions as opposed to the intermittent ones in certain other conditions that simulate tetanus, such as strychnine poisoning, is emphasized.

The study showed clearly the value of immediate radical local treatment, and that the most important thing is to open the wound freely in all directions under general anæsthesia. Many patients were more or less benefited by the local carbolic acid treatment, and some observers report good results from the local use of ice or freezing mixtures or treatment in a cold room. For palliative treatment, chloral and the bromides appear to have been most extensively used. Calabar bean has been much employed, and also morphine, which should be used with caution on account of its inhibitory action on the respiratory centers. There is no question as to the value of antitoxin as a prophylactic; the testimony is uniformly in its favor. It should be used in any case in which there is suspicion of tetanus infection. In a well-developed case of the disease it has no appreciable beneficial effect, neither reducing the mortality nor hastening recovery. J. M. Anders and A. C. Morgan (Journal of the American Medical Association, July 29, 1905).

TRACHOMA TREATED WITH RADIUM.

The results of a series of experiments upon four patients with trachoma who were treated with radium are reported by the writer. The cases selected were very marked, and the entire conjunctiva was studded with typical granulations. These were cases that under ordinary method of treatment required operation. The amount of radium used, which was sealed in a thin glass tube, was usually 1 milligram, though during the last seances 10 milligrams were used. The exposure of each eyelid was from five to ten minutes. The method of application consisted of a slow movement of the radium tube over the mucous membrane, either avoiding actual contact with, or very lightly touching the diseased surface. No other treatment was used. The results obtained were remarkable. Of seven eyes subjected to the method, five actually were permanently cured, while two more were on the road of complete recovery at the time of writing. The granulation disappeared without any pathological changes in the mucous membrane, and no scars remained. The number of exposures necessary for the complete disappearance of the granulation was from eight to fourteen. While the technique of the application of radium in trachoma is still to be perfected, the author is convinced that radium is an excellent means of treating this disease, and that the treatment is absolutely harmless provided the amount of radium and the duration of the exposure be carefully regulated. J. V. Zelenkovski (Roussky Vratch, May 14, 1905).

TUBERCULAR CERVICAL LYMPH-NODES, SURGICAL TREATMENT OF.

Tuberculosis of the cervical lymph-nodes is apparently due to infection received from the fauces, pharynx, or nasal mucous membrane, in the great majority of cases (86 per cent. in the present series). The disease shows a tendency to extend to the lungs and other internal organs. Statistics indicate that such extension occurs in one-quarter to one-half of the cases from whom the nodes are not removed. Entirely apart from its tendency to infect other organs, the disease is very tedious, causes great discomfort and disability, and leaves disfiguring scars.

The thorough removal of the diseased nodes by operation has given better results than any other method of treatment which the writer finds recorded. The records of operations justify the following assurances: *(a)* In favorable cases: safety of operation (many operators reporting more than 100 cases without mortality); a scar which is hardly to be seen; probable confinement to bed of two or three days; the wearing of a bandage dressing from one and one-half to three weeks; freedom from recurrence in about 75 per cent., and ultimate recovery in about 90 per cent. of the cases. *(b)* In the less favorable cases: safety of operation; less disfigurement from scars than discharging sinuses will cause; freedom from recurrence in 50 to 55 per cent., and ultimate cure in 70 to 75 per cent. of the cases.

Transverse incisions, either in the neck-creases or parallel to them, are usually to be used. They should be so placed that the fibers of the facial nerve will not be cut. A vertical incision back of the hair-line is occasionally helpful. Extensive incisions are necessary for the far advanced cases. Every precaution should be taken to preserve the normal structures of the neck.

It is not feasible to divide the cases into groups, some suitable, others unsuitable for operation. Every case with tubercular cervical lymph-nodes should be operated upon unless there is a particular reason to believe that the operation would not be endured. C. N. Dowd (Annals of Surgery, July, 1905).

TUBERCULOSIS AND PREGNANCY.

Pregnancy affects all the important systems of the body. For practical purposes, gestation may be looked upon as a functional exercise of the female generative system, leading to characteristic changes in various other systems, similar to exercise of the muscular system causing changes in other parts of the body; parturition is a more or less violent exercise, and the puerperium may be regarded as *(a)* a period of recuperation from the shock of labor, and *(b)* a period of involution of many of the changes in the various systems evolved during gestation.

Tuberculosis is usually at first a pure infection by the tubercle bacillus, but frequently the patients do not present themselves to the physician until the disease is a true phthisis, a multiple infection, in which a pulmonary sepsis is superimposed upon a tuberculosis. The occurrence of secondary infection increases the virulence of the toxins and in every way makes the condition of the patient worse. Laryngeal tuberculosis and miliary tuberculosis are exceedingly grave forms of the disease.

Many writers have reported that tuberculosis is especially liable to occur during pregnancy. It is possible that this may be only apparent, the disease being more frequently aroused from a latent state by pregnancy, or first recognized at this time. On the other hand, the seclusion of patients at the time of pregnancy may place them under conditions that predispose to tuberculosis, especially through close association with tuberculous patients.

The practice of pregnant women going into retirement should not be tolerated, if such seclusion predisposes to infection through unhygienic surroundings or association with tuberculous patients. The pregnant woman should be placed under good hygienic surroundings, protected as far as possible from the causes that predispose to tuberculosis. To this end it is advisable to recommend suitable exercise in the open air and sunlight. Pregnant women, especially if tuberculous, should be protected from conditions that predispose to secondary infection; they should avoid impure, vitiated atmosphere, and association with infected individuals, and those affected with influenza or the ordinary "colds," since these increase the virulence of the disease.

The gravity of tuberculosis is increased by pregnancy, especially during the puerperium. The highest maternal mortality has been observed by the writer in primiparæ. A tuberculous lung is necessarily a defective organ. Hemoptysis does not occur with especial frequency at the time of parturition.

Tuberculous patients, when pregnant, should come under treatment early. They should receive instructions regarding hygiene, the care of the emunctories, diet, exercise, and protection from the predisposing causes of tuberculosis. Pregnant women bear the tuberculin treatment remarkably well. The diet of the tuberculous, when pregnant, should be carefully suited to the requirements of the individual. Suralimentation, so valuable in tuberculosis, may be detrimental during pregnancy through the strain imposed upon the kidneys.

The excessive vomiting of pregnancy requires especial attention in tuberculosis. Interruption of pregnancy is a serious matter, and usually is not beneficial so far as pulmonary tuberculosis is concerned. But tuberculosis is not a contraindication to this operation when required for other reasons. In laryngeal and miliary tuberculosis, the interruption of pregnancy should be practiced early or not at all.

Tuberculosis seems to increase the sexual appetite and to actually predispose to pregnancy. In the indulgence of the sexual appetite, tuberculous patients should be instructed to always stop short of the point of fatigue. In the genito-urinary tuberculosis the axiom should be observed that a diseased member is best treated by rest.

Marriage of the tuberculous is usually not desirable, but to this rule there are exceptions. Tuberculous women should not nurse children. A child may be infected by association with a tuberculous mother. G. E. Malsbary (American Journal of Obstetrics, July, 1905).

TUBERCULOSIS OF THE CÆCUM.

Tuberculous disease of the cæcum is of comparatively common occurrence, the cæcum being involved in 85 per cent. of all cases of intestinal tuberculosis. Infection may be either primary or secondary, the latter being most common in children and young adults, the former between the ages of 20 and 45 years. There are two main types, the ulcerative and the hyperplastic. If it occurs during the active progress of pulmonary disease, it usually pursues an ulcerative or destructive course with varying rapidity, but if secondary to a healed pulmonary lesion, or if it is primary, then the infection is of a mild type, and the pathological changes are of a chronic hyperplastic nature. The author reports a case of the latter nature occurring in a woman aged 23 years, in which operation was performed successfully, the patient leaving the hospital on the thirty-fifth day. The characteristic clinical feature of these cases is the development of a tumor which is hard and nodular, movable, but usually only toward the middle line, not in an outward direction, not moving with respiration, and giving a hollow, impaired tympanitic note on percussion. The patients are frequently well nourished, but there is usually some disturbance of digestion, attacks of colicky pain occurring at irregular intervals, without any apparent cause. R. A. Stoney (Lancet, July 29, 1905).

URÆMIC HEMIPLEGIA, INTRACRANIAL PRESSURE IN.

The writer calls attention to the fact that by no means all cases that show chronic interstitial nephritis are subject to uræmia, and to the still more important circumstance that neither sclerosis of the kidney nor, in fact, arteriosclerosis, predisposes to uræmia until hypertension of the vascular system is superadded. The two by no means always go hand in hand. Many cases of high-grade sclerosis present a comparatively normal blood-pressure. Certain cases of hypertension show little or no sclerosis and yet apoplexy occurs. If hypertension is added to sclerosis of the arteries and veins, however, with the consequent intracranial tension due to this and to local toxic irritation, there is present at once the ideal conditions for the causation of the uræmic picture.

The writer reaffirms the belief that various toxins are influential in producing the symptoms in various instances of uræmia. Among these, probably the most important is one originating in an abnormal digestive tract, or elsewhere, and resembling adrenalin in its physiologic action, as suggested by Thomson.

Whether as a result of, or a coincidence with, toxic irritation, intracerebro-spinal overpressure, due to an accumulation of fluid, may and usually does cause the majority of the classical symptoms of uræmia, and is often the dominant influence. Spinal drainage may, and in many cases does, promptly relieve the symptoms of uræmia, furnishing clinical proof of the foregoing statement. Occasionally when intracranial pressure has been removed the toxin alone may cause the picture of uræmia.

Uræmic manifestations (other than coma), when due to intracranial pressure, may be either general or localized. Unilateral convulsions, convulsive movements of one limb, monoplegia, hemiplegia, motor or sensory aphasia, and similar phenomena are of rather frequent occurrence. The toxic influence, in the few instances in which it has seemed to act independently of intracranial pressure, has caused only general manifestations, usually of an irritative nature (convulsions, etc.), seldom, if ever, paralytic phenomena.

Uræmic hemiplegia and other uræmic paralyses are due usually to direct pressure on, or œdematous infiltration of, the motor centers of the brain, and may usually be relieved by withdrawal of the cerebro-spinal fluid. There is a striking suggestiveness in the frequent absence of general œdema, though there be an excess of intracranial fluid, arising from an entirely different influence and cause. The writer's most successful cases showed no œdema of the external body, but without exception a high degree of intravascular and intracranial tension.

Lumbar drainage should be employed as a routine measure, together with all the known means of reducing systemic pressure or hypertension. Among these, the most valuable are free bleeding, free purging, free diuresis, and the administration of large doses of aconite.

The ultimate cause of the vascular hypertension of uræmia has not yet been discovered. It would appear by no means impossible that the intracranial fluid pressure is partly due to toxic inflammatory exudate; that this causes hypertension within the cranium and favors a similar hypertension throughout the general circulation, or *vice versâ;* and that the symptom-complex of uræmia is thus usually due to such a sequence of causes. Probably uræmia cannot occur in the presence of low intravascular and intracerebro-spinal tension.

It would appear from the failure in repeated instances to produce any deleterious effect on healthy small animals by injecting successive small quantities of the cerebro-spinal fluid from uræmic subjects, that the toxic principle of uræmia is not to be found in the latter. The experiments of Hughes and Carter in 1893 seemed to show that it may possibly be found constantly present in small quantities in the normal blood-serum.

While lumbar puncture is not infallible, nor devoid of a slight risk to the patient, the procedure should be employed early in the course of uræmia, and repeatedly, if necessary, to accomplish the lowering of systemic hypertension. It may save life and will often dissipate the uræmia at least for the time being. Transfusion of normal or other salt solution is harmful in uræmia, in that it causes, both by its mechanical and chemical influence, an increase of intravascular and intracranial tension, and supplies certain of the conditions necessary to the uræmic seizure. R. N. Willson (Journal of the American Medical Association, July 1, 1905).

URETHRO-RECTAL FISTULA.

Urethro-rectal fistula, though comparatively rare, is apt to be overlooked. If there is any doubt, the permanganate test should be used. It is generally of gonorrhœal origin, generating prostatic abscess. It may be of traumatic origin by the use of sounds or the operation of lithotomy. The symptoms may point to cystitis, urethritis, and proctitis, in addition to intercommunicability of the urethra and rectum. This is a type of fistula in which suture must be used.

and a No. 3, 40-day catgut. Failure to close the tract should not cause surprise or discouragement. Personal care of the wound is of paramount importance. It should never be left to an assistant, for no one can possibly be so familiar with the wound as he who made it. A certain number of cases of urethral origin will heal spontaneously, if recent, and if the stricture is removed. W. M. Beach (American Medicine, July 29, 1905).

UTERINE CARCINOMA, EARLY DETECTION OF.

The author makes the emphatic statement that there is no characteristic first or early symptom of uterine carcinoma either of the cervix or of the body. From a list of questions concerning cancer patients, sent to many surgeons, the replies showed that in 45 cases the first symptom was a leucorrhœa, which in itself was in no wise characteristic. In 21 cases the first symptom was bleeding, varying from a slight staining to profuse flowing. In 12 cases pain was the first symptom preceding both leucorrhœa and bleeding. Pain as an initial symptom appeared slightly more often in cancer of the uterine body, but not with sufficient emphasis to be considered characteristic or pathognomonic. Leucorrhœa had existed previous to the onset of the illness in 33 cases and had not so existed in an exactly equal number. In 9 cases no satisfactory answer was obtainable. This pre-existing leucorrhœa had undergone a noticeable augmentation before becoming blood-stained in 42 cases, including both classes of cases with leucorrhœa, namely, those which started with leucorrhœa and those having a pre-existing discharge. The bleeding began in from six weeks to one year before examination, with an average duration of six months. Pain was entirely absent in 36 cases, and in 35 cases in which it was a noticeable factor it had been slight in 18 cases for periods varying from three weeks to one year, and severe in 17 cases from two months to one year. Thirty-six cases were too far advanced to admit of more than palliative operation, and radical operation was advised or performed in 42 cases. In 42 cases the cancer was in the cervix; in 30 cases in the body, and in 6 cases not stated. As is seen by the statistics, no one symptom can be regarded as characteristically the first symptom of uterine cancer, and the author therefore emphasizes the necessity of making a thorough examination of the pelvis both bimanually and with the speculum in every patient having pelvic symptoms. D. H. Craig (New York Medical Journal and Philadelphia Medical Journal, July 8, 1905).

UTERINE HÆMORRHAGE, ARTERIOSCLEROSIS OF THE UTERUS AS A CAUSAL FACTOR IN.

Metritis as a primary lesion and independent of infection is not accorded the consideration which the frequency of its occurrence and its clinical significance would warrant. The muscular fibers of the uterine wall have an important function in controlling the caliber of the blood-vessels, and hence in regulating the blood-supply to the uterus, as evidenced in the relaxed condition of the uterine wall during menstruation, in post-abortive and postpartum hæmorrhages, and in the free bleeding which accompanies curettage when the uterus has relaxed under the irritating influence of the curette. In all these conditions the hæmorrhages are controlled by the contractions of the uterus. Any event which lowers the muscular tone of the uterus may occasion an abnormal loss of blood into the endometrium and uterine cavity.

Prominent among the factors which contribute to muscular atony in the uterus, are the wasting diseases, anæmias and acute febrile diseases, which are not infrequently accompanied and followed by uterine hæmorrhages as the result of weakened support to the vessel walls from myodegeneration. Fibrosis uteri is a far more common cause of muscular insufficiency. The building up of connective tissue in the uterine wall at the expense of the muscular elements is the result of long-continued passive congestion, which in turn is due to numerous general and local lesions, such as an incompetent heart, obstructions in the lungs, liver, kidney, and spleen, abdominal swellings, varicose veins of the pelvis, and uterine displacements.

The walls of the blood-vessels share in these hyperplastic changes, in that the media and adventitious coats of the vessels are thickened. In this matter the elasticity of the vessel walls is impaired, and if the lumen of the vessels is not narrowed by contraction of the vessel walls and thickening of the intima, there will be added reasons for venous engorgement of the uterine wall and capillary oozing into the endometrium. In such cases the prime factor in the causation of uterine hæmorrhages is the muscular incompetency; the thickened vessel walls and the remote embarrassments to the circulation are but contributing factors. This condition of the vessel walls is to be distinguished from the arterio-obliterans of the normal senile uterus, in which the vessels are partially or wholly obliterated by the thickened intima and the contraction of the vessel walls. In such cases hæmorrhages do not occur for the reason that the blood-supply is greatly diminished.

In none of the recorded cases were hæmorrhages seen to come from ruptured vessel walls, nor were aneurisms of the arteries seen in the uterine wall. On the contrary, the escaped blood was farthest removed from the sclerosed vessels and were evidently capillary. The author therefore considers that he is not justified in ascribing the hæmorrhages directly to the sclerosed vessels.

The diagnosis can only be made by first excluding all other possible causes, such as polyps, carcinoma, and fibroids.

Hysterectomy has been frequently resorted to after repeated curettements have failed. Palliative methods, *i.e.,* rest, ergot, styptic applications to the bleeding surface, and finally tamponing the uterine cavity, may be resorted to, but have repeatedly failed. Palmer Findley (American Journal of Obstetrics, July, 1905).

UTERUS, FIBROID TUMORS OF, SURGICAL TREATMENT.

The routine treatment for fibroids of the uterus, presenting symptoms in women under 45 years of age, should be supra-vaginal hysterectomy, except as hereinafter stated. The exceptions to this rule should be *(a)* in subperitoneal tumors either pedunculated or not, in which only one or more distinct developments exist which do not materially increase the size of the uterus proper and the area of its endometrium, when myomectomies may be resorted to; *(b)* in fibroids which present excessive hæmorrhagic tendencies, in which the hæmoglobin is reduced below 25 per cent., or in which serious vascular cardiac or kidney complications exist which greatly increase the risk of the operation, when a preliminary operation of vaginal ligation of the uterine arteries should be resorted to; *(c)* in cases where a radical operation will not be accepted, a curettement and vaginal ligation of the uterine arteries may be resorted to, or, if no operation at all will be accepted, general tonics, ergotine in tonic doses, and galvanism scientifically applied may be depended upon to relieve the patients materially, and occasionally tide them over the menopause to a complete symptomatic cure.

The treatment for large, complicated tumors without regard to age, or large apparently uncomplicated tumors in which symptoms of hæmorrhage or pressure exist, should be supra-vaginal hysterectomy.

Tumors of medium size apparently uncomplicated, in women over 45 years of age, may be managed by one of the less radical forms of treatment as: *(a)* when the tumors are of the symmetrical development type, enlarging uniformly the uterus, and the principal symptom is an exaggerated menstrual flow, the cases may almost invariably be relieved by galvanism and tided over the menopause; or *(b)* if the growth is of the irregular type which has distorted more or less the uterine cavity, the case should be submitted to dilatation, finger exploration, curettement, and, if considerable flowing is a symptom, vaginal ligation of the uterine arteries, with the idea of obtaining a symptomatic cure over the menopause.

The extremely small class of tumors coming under the head of "inoperable" cases must be managed on general principles—rest in bed, general tonics, treatment of the cardio-vascular and kidney complications when they exist, curetting and irrigating for septic endometritis, electricity for pain and hæmorrhage, ligation of the uterine blood-supply if practicable for intractable hæmorrhage, and vaginal incision of impacted cysts or pus accumulations. F. H. Martin (New York Medical Journal and Philadelphia Medical Journal, June 17, 1905).

X-RAY TREATMENT OF CANCER.

The results of the x-ray treatment of malignant tumors up to the present time have proven that the x-ray exerts a powerful influence upon cancer cells of all varieties, but most marked in cases of cutaneous cancer. In some cases, chiefly in superficial epithelioma, the entire tumor may disappear, probably by reason of fatty degeneration of the tumor cells with subsequent absorption. In a much smaller number of cases of deep-seated tumors, chiefly cancer of the breast and glandular sarcoma, tumors have disappeared under prolonged x-ray treatment. In nearly every one of these cases, however, that has been carefully traced to final result, there has been a local or general return of the disease within a few months to two years. In view of this practically constant tendency to early recurrence, furthermore, in the absence of any reported cases well beyond three years, the method should never be used except in inoperable cases, or as a prophylactic after operation, as a possible, though not yet proven, means of avoiding recurrence.

The use of the x-ray as a pre-operative measure in other than cutaneous cancer is contraindicated, (1) because the agent has not yet been proven to be curative; (2) because of serious risks of an extension of the disease to inaccessible glands or to other regions by metastases during the period required for a trial of the x-ray. William B. Coley (Annals of Surgery, August, 1905).

YEAST CELLS, ACTION OF.

Living yeast does not possess any directly bactericidal or phagocytic properties, nor does it, when injected subcutaneously, pass unaltered into the circulation, but is quickly disintegrated and absorbed. When injected intravenously it causes intravascular clotting of the blood, and is therefore an unsafe substance to use in this manner. Subcutaneous injections of pure cultures of living yeast can be made in animals without producing any ill effects except the formation of a slight swelling at the point of puncture, which rapidly disappears. Killed yeast produces exactly the same effect as living.

The immediate effects of subcutaneous injections is to produce a leucopenia rapidly followed by a leucocytosis. The effects of subcutaneous injections of yeast on animals infected with streptococcus pyogenes, staphylococcus albus, and tubercle, is in some cases to cause a recovery of the animals and in others to prolong their lives. The effects produced by the injections of yeast are probably due to the liberation of the nucleoalbumin contained in the cell which acts as a powerful stimulant to the cells of the body generally, and causes a large increase in the antiseptic and anti-bactericidal substances normally present in the blood serum. Walter Malden (Supplement to the British Medical Journal. July 1, 1905).

CHANGES IN THE PHARMACOPŒIA.

In the new United States Pharmacopœia the following changes are noted: The strength of tincture of aconite has been reduced from 35 per cent. to 10 per cent., and that of tincture of veratrum from 40 per cent. to 10 per cent. The strength of tincture of strophanthus has been increased from 5 per cent. to 10 per cent. These changes officially go into effect on September 1, 1905.

THE INTERNATIONAL MEDICAL CONGRESS.

The International Medical Congress is an occasion always of large importance. Here are brought together the leading members of the profession who are able to attend. They select and discuss topics of urgent importance, giving to the reading medical public the results of their findings and conclusions. It is of importance for all progressive medical practitioners to attend such meetings when possible. The local limitations, the minor controversies inevitable in state and national meetings find no place. The whole realm of progressive medicine is before the meetings untrammeled by sectional considerations.

The meeting in Lisbon is not likely to attract so many as a more central place, yet the very fact of there being fewer distractions than would be met in Paris, London, or Vienna, will assure fuller attention to the business in hand.

We publish the outline of sections with the subjects for discussion. It will be of educational value to see what it is that shall engage the attention of these distinguished speakers. This furnishes a key to what is engaging the interest of research workers in all lands.—J. M. T.

The next International Medical Congress will be held in Lisbon, April 19 to 26, 1906. It is expected that it will be one of unusual importance, for a meeting which will be held in what has always been considered as an out of the way country. Already the titles of papers from some of the most distinguished men of the medical profession have been received. Some of the topics for discussion that have been selected by the Executive Commitee are the following:—

SECTION OF DESCRIPTIVE AND COMPARATIVE ANATOMY, ANTHROPOLOGY, EMBRYOLOGY, AND HISTOLOGY.

Definition, structure, and composition of protoplasm.
Origin, nature, and classification of pigments.
Cellular changes in normal tissues.
Evolution and involution of the thymus gland.

SECTION OF PHYSIOLOGY.

The rôle of leucocytes in nutrition.
The thyroid secretion.
Renal permeability.
The nutritive value of alcohol.
The physiology of the cytotoxins.
The blood ferments.

SECTION OF GENERAL PATHOLOGY, BACTERIOLOGY, AND PATHOLOGICAL ANATOMY.

What are the present scientific proofs of the parasitic nature of neoplasms, especially of cancer?
Preventive inoculations against bacterial diseases.
Preventive inoculations against protozoic diseases.
Preventive inoculations against diseases from an unknown specific agent.
The pancreas and fat necrosis.

THERAPEUTICS AND PHARMACOLOGY.

Local therapeutics in infectious diseases.
Separation, from a physiologic and therapeutic point of view, of the different radiations produced in Crooke's tubes and of those which are sent out by radio-active bodies.
The therapeutic value of bactericidal serums.
The relation between the molecular constitution of organic bodies and their physiologic and therapeutic action.

SECTION OF MEDICINE.

The pathogenesis of diabetes.
The pathogenesis of arterial hypertension.
The treatment of cirrhosis of the liver.
Cerebro-spinal meningitis.
International defense against tuberculosis.
Meningeal hæmorrhages.

SECTION OF PEDIATRICS.

Spastic affections of infancy; classification and pathogenesis.
Cerebro-spinal meningitis; etiology and treatment.
The social struggle against rickets.

Orthopedic surgery in affections of nervous origin, spastic, and paralytic.
Congenital dislocation of the hip.
The treatment of abdominal tuberculosis (peritoneal).

NEUROLOGY, PSYCHIATRY, AND CRIMINAL ANTHROPOLOGY.

Penal reform from the anthropologic and psychiatric point of view.
Forms and pathogenesis of dementia præcox.
The relations of progressive muscular atrophy to Charcot's disease.
Cerebral localization in mental disease.
Education and crime.
Stigmata of degeneration and crime.

SECTION OF SURGERY.

Septic peritoneal infections; classification and treatment.
Gastro-intestinal and intestino-intestinal anastomoses.
Recent additions to arterial and venous surgery.

SECTION OF MEDICINE AND SURGERY OF THE URINARY ORGANS.

Surgical intervention in Bright's disease.
Surgical treatment of prostato-vesical tuberculosis.
Progress of urology in the diagnosis of renal disease.
Painful cystides.

SECTION OF OPHTHALMOLOGY.

Blepharoplasty.
Serotherapy in ophthalmology.

SECTION OF LARYNGOLOGY, RHINOLOGY, OTOLOGY, AND STOMATOLOGY.

Study of the epileptogenous action of foreign bodies in the ear and of vegetations in the naso-pharynx.
The different forms of suppuration of the maxillary sinus.
Injections of paraffin in rhinology.
Differential diagnosis of tubercular, syphilitic, and cancerous lesions of the larynx.
Choice of anæsthesia in the extraction of teeth.
Treatment of alveolar suppuration.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Conservative surgery of the ovaries.
Tuberculosis of the adnexa.
Symphisiotomy.
Pregnancy and cancer of the uterus.
Therapy of puerperal infections.

SECTION OF HYGIENE AND EPIDEMIOLOGY.

The intermediary of yellow fever.
The coöperation of nations to prevent the importation of yellow fever and the pest.
Watering the streets as a means against tuberculosis.
Recent additions to the etiology and epidemiology of epidemic cerebro-spinal meningitis.

SECTION OF MILITARY MEDICINE.

Portable ration of the soldier during campaign.
The purifying of the country water.
Emergency hospitals on the battlefields.

SECTION OF LEGAL MEDICINE.

Signs of death from drowning.
Ecchymoses in legal medicine.
Epilepsy in legal medicine.
Organization of medico-legal services.

SECTION OF COLONIAL AND NAVAL MEDICINE.

Etiology and prophylaxis of beri-beri.
Etiology and prophylaxis of dysentery in hot countries.
Mental diseases in tropical countries.
Hospital ships and their function in time of war.
Tuberculosis in the navy and its prophylaxis.

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Editorials.

DEPARTMENT IN CHARGE OF
J. MADISON TAYLOR, A.M., M.D.

A VALUABLE SIGN IN THE DIFFERENTIATION OF PSOAS ABSCESS FROM INGUINAL OR FEMORAL HERNIA.

A PSOAS abscess is much more frequently mistaken for a hernia, than a hernia for a psoas abscess. In fact, I know of no record or instance of the latter condition, but am very familiar with instances of the former. The confusion of the two conditions is rather common with the general practitioners who have not had the privilege of observing the great numbers of cases that present themselves to the worker in the large surgical or orthopædic clinic. That it is not confined to them is shown by the fact of two well-known instances where professors of surgery in two leading colleges announced at separate times the performance of an operation for the radical cure of hernia (one femoral and one inguinal), and in the course of the operation, on opening the "sac," released a large quantity of pus which, on investigation, was shown to be the contents of a psoas abscess. Further investigation in both cases also revealed a kyphos in the lower spine which had not been previously observed. These mistakes are naturally ascribed to incomplete examination of the patients; yet the ability and thoroughness of the two operators is unquestioned and the final explanation is that too much reliance was placed upon the classical symptoms of the supposed hernia. In all works on surgery the classical signs of hernia are detailed to serve as a guide to differentiate it from resembling conditions, but almost all of these symptoms may be found in the psoas abscess, so that without a careful search for the spinal kyphos or muscular rigidity or for the psoas muscle itself, there is a possibility of such a mistake, and it is not a remote one.

For several years, in the orthopædic department of the Jefferson Medical College, I have taught the students that in addition to, or irrespective of, the signs mentioned in works on surgery, the *presence of a tumor in the iliac fossa continuous with the external tumor* was sufficient to eliminate the presence of a hernia. In hernia, the tumor exists *only* outside the abdominal wall, while in the psoas abscess there is a tumor *in the iliac fossa and in the line of the psoas muscle.*

In hernia, the contraction of the psoas muscle can be felt as the patient flexes the thigh on the abdomen, while in the psoas abscess the psoas muscle is destroyed, hence cannot be felt to contract. Fluctuation between the external and internal tumors can be easily demonstrated in the psoas abscess, but it does not exist in a hernia. In many cases, also, fluctuation may be obtained between the external tumor and the back, opposite the origin of the psoas muscle.

There are numerous symptoms which are rather distinctive of the psoas abscess, and which, when present, direct the attention away from hernia. Chief among these are flexion and external rotation of the thigh, causing a decided limp in walking; rigidity of the lower spine and of the spinal muscles; kyphos of the lower spine, more or less angular, etc.; but when these are absent, as they may be in any given case, the differentiation hinges upon *the presence or absence of the intra-abdominal tumor continuous with the external one.*

In a case recently seen, a child 4 years old had a lumbar caries for which a brace had been applied. In spite of careful supervision a psoas abscess developed in the left side, and about the same time an inguinal hernia was discovered on the right. Thus it was possible to demonstrate in the same subject the value of the sign just mentioned as clearly differentiating the two conditions. The abscess disappeared as more efficient support was afforded the spine and the hernia was easily held reduced by a truss. The recovery of the child seems assured.

In the fourth and last edition of "Modern Surgery," by Dr. J. Chalmers Da Costa, and in a paper by Dr. H. Augustus Wilson, published in American Medicine, July 8, 1905, this sign is mentioned and credit given for the originality of the observation.

J. TORRANCE RUGH.*

IMMUNITY THROUGH EXPOSURE.

WE can generally look at a subject from several sides, but often forget to do so, for we are all, more or less, partisan. Immunity is one of such subjects, but nowadays every one looks at it from the viewpoint of immediate action and immediate returns. There are other ways, however.

Explanations of this acquirement of immunity from disease are various, and all more or less unsatisfactory. Some are puerile and some so involved that the mind refuses to understand them. We all know, at least superficially, the argument of each, and the bacteriologic explanation for the immunity conferred by the many serums that do not immune, as well as the diphtheria antitoxin which sometimes does; but we confess that it has never seemed clear to us, brought up within the old theologic lines (though like all the world, somewhat emancipated), still thinking more or less in the old thought grooves, of an Overruling Power and a logical plan of creation, that, if there be any plan about man and his doings and destiny, or any recognizable, intelligent power over him and his world, it is doubtful if such power and plan ever intended that he should fight disease and prolong his life in the clumsy way of the serum cures. The way is too round-about, too involved and uncertain, and too costly to life and happiness other than human. Of course, it is better, from the view of very old, decrepit theology, that many animals should suffer and perish rather than that man should suffer a pang or lose an hour of life. But man no longer occupies the proud position he once held; he is scientifically considered now, as only one of "the beasts that perish." The bacteriologic way is to eliminate disease at once, and with the laboratory making its serums, there is also the "health law"—the power to supervise, immure, remove, and stamp out disease, *i.e.*, when it consents to be stamped out. But this is not Nature's way, which is ever acting and with the same end in view as the way of the laboratory, the bacteriologist, and the official.

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*Demonstrator of Orthopædic Surgery in the Jefferson Medical College.

There is also the way called "the survival of the fittest," and for it we substitute the survival of the unfit. There is also the way we might call "immunity through exposure," and we substitute for it immunity by seclusion, quarantine, and segregation—but for immunity through exposure there is still something to be said.

When the diseases we know and have known in civilization are suddenly imported into a community which has been hitherto isolated and ignorant of their existence, as when Europe carried measles into New Zealand and syphilis into the Sandwich Islands, and to many other places where it was before unknown, we find these diseases, which had gradually acquired with us a comparatively mild character, suddenly becoming deadly pestilences—in other words, we enjoy a *partial immunity* which virgin populations do not. This immunity is not due in any particular case to the fact that the individual exposed has previously had the disease, but either through inheritance of immunity, or from having been exposed during our lives, from time to time, to minute doses of contagion (microbic or otherwise), and to having, in consequence, found in ourselves a resistance (an antitoxin) in small quantity, which both acts as a partial preventive and as an antidote to the poison when encountered in larger quantity. In this way, year after year, century after century, the race, while losing by death the extremely non-resistant type, which can form no resistant body, and (naturally) cutting it off by death from the chance of propagating its kind, acquires generally more and more resistance—the disease is said to have become milder.

Take tuberculosis, as an example. Granting that the bacillus of tubercle (Koch) is its cause, the bacteriologist tells us that we are all of us everywhere exposed to it; that we frequently have short and small attacks, which we may consider "colds," and which disappear; that post-mortem evidence proved that most of us have had a minor tuberculosis some time in a lifetime. We agree that these transient cases leave behind in the triumphal economy of nature a gradually increasing immunity, a power of resistance, whereas, if, from birth to death, a whole generation had no opportunity to inhale, or come in contact with these bacilli; if the dust was never laden with them; if there were no old infected houses and stuffs to retain them; no fellow-beings to expectorate them—then, if after one or two generations such a race were suddenly confronted with imported tuberculosis, what result could we expect but a vastly increased sensitiveness on the part of the community, and a vastly augmented and accelerated mortality. If we knew of a race—continuous in its history, without foreign intermixture, peculiarly exposed, through its circumstances and surroundings, to all transmissible diseases, we should expect to find them acquiring immunity through these two great forces—immunity through survival of the resistant type and elimination of the feebler, and immunity through exposure. Such a race is the Hebrew, and all observers credit them with just this condition of things.

But this method is much too slow for us; we look only at the present; we bear less disease to-day, even if it should become more virulent to-morrow. So the stamping out method appeals to us—if only it would stamp out. This way is the way of the bacteriologist and the health officer, by which some one individual, generally an animal, is called on to endure great and overwhelming experimental exposure, and then we are to profit by its peril. If only there was full success to counterbalance its cruelty—with cruelty to animals alone—but cruelty is to the sick, for this method makes sickness a crime, and educates the community into such a horror of disease that they lose courage and kindness and mercy and love, even for their own nearest, in the presence of epidemic disease.

And all this, too, could be condoned if altogether successful; but is it? Why, for instance, did the epidemic of smallpox in Philadelphia in the early '70's die out practically in a year, and the subsequent epidemic in '81 and '88 fail to persist in succeeding years, when bacteriologic and health law strenuosity were unknown, while with all the power of such laws and all the skill of to-day, and far more money to spend, the recent epidemic ran its course unchecked for three years, during which quarantine and removal to hospitals were carried out with dominant hand? If the bacteriologist had a perfect weapon, and perfect skill in its use, and if before his valiant thrusts disease fled shrieking away, then the question would be solved—the new way would be the best. But with serums that fail to immune or cure, with disease as deadly as ever, we cannot help thinking, sometimes, that the world will gain more in the long run, by the old, non-sensational way which is ever acting for us, unless we wilfully stay its hand.

Immunity by exposure is based on a great, underlying law, which extends to things moral as well as to things microbic—to the action of the elements that war against us as well as to the bacteria that so silently bear death influences. Do we shun cold and fear draughts and exposure, how are we best inured but by the repeated short shocks of cold bathing that rouse up resistance? And in another question of great moment, this method seems pre-eminently successful. There are, for example, two possible ways of making a nation temperate—one by force (prohibition); the other by exposure. And supposing each to have in different communities full sway and way, which would in the end produce the best permanent results? If we, to imagine such a situation, could keep all alcoholic drinks from a whole people till even their theoretic knowledge of them were lost, and beer, wine, and spirits were to them unmeaning and unknown words, and then suddenly spring upon such a people alcohol in every form—offered freely—what would be the probable result? Most likely utter demoralization and universal drunkenness; while to-day, were every corner to offer to the passer-by, free whisky, if it stood labeled and waiting, with the convivial glass in evidence—eight in ten—yes, ninety-nine in one hundred—would pass it by unharmed. Such is the success of the slow, natural method of immunity by exposure, which has changed the British aristocracy, the lineal descendants of those who, two generations ago, were the most intemperate, into the most temperate, sober and useful aristocracy in the world. The very children of total abstainers are often the first to yield, and the children of the drunkard, while some of them inheriting weakness, also comprise among their number the very apostles of "temperance."

Left to itself without intemperance, the survival of the fittest would alone, in time, eliminate disease, or, more truly, death from disease, for the susceptible and weak contracting disease readily and dying, the survivors would propagate a more resistant race. In this way an eminent yellow fever expert (Dr. Guiteras) was accustomed to explain the apparent immunity of natives in yellow fever districts. It might be said that some diseases are not respecters of persons, slaying alike the weak and the strong; but this is doubtful. Hamburg, in its great cholera epidemic, illustrates this, where the cholera deaths caused so little real change in the rate of mortality that the percentage of deaths from all causes for the two years before the epidemic was very little less than for the succeeding two years, which included the cholera year, showing, apparently, that cholera, which is supposed to slay indiscriminately those who have received its contagion, in reality killed only those who were doomed to die in the next few years, viz., the susceptible and non-resistant. So, while no one could urge an entire abandonment of modern methods, it is perhaps as well, once in a while, to pause and try to realize that, apart from them, there is ever working a force that makes for health, and, though slow, can, through hard fought battles and many slain, bring us victory—and that its law is what we have called immunity by exposure.

EDWARD W. WATSON,
Philadelphia.

THE PROBLEM OF THE ENLARGED PROSTATE.

It is perfectly safe to say that the question as to what is the most successful method of treatment for prostatic hypertrophy is one that has received more attention at the hands of genito-urinary surgeons during the last few years, than any other involving the genito-urinary tract. It is also equally safe to say that where so many varied operative measures have been suggested that the ideal operation has not as yet been devised. At the time that castration was suggested, all operative measures directed to the gland itself had practically fallen into disfavor. The result was that the comparatively simple operation of castration was welcomed with delight, as offering a safe and efficient method of treating this condition. The subsequent history of the operation is well remembered. Testicles all over the world were sacrificed in the hope of reducing the size of the prostate. It must be confessed that some of the earlier reported cases showed remarkably good effects; but the terminal results were not so good and as it developed that the operation, simple as it seemed, was at times followed by death, it has been practically abandoned.

In more recent years the methods of Bottini occupied the attention of the profession and operators began falling over each other in their eagerness to report successful cases thus treated. The writer must plead guilty of having reported quite a few himself. The operation is still in favor in Europe, but most surgeons here employ it in limited cases only. It has a place in very old men where more formidable operative measures could not be done. The early age of many of the cases reported as cured would lead one to suspect that they were cases of chronic prostatitis and not senile hypertrophy.

At the present time prostatectomy occupies the "center of the stage;" and he is indeed a modest genito-urinary surgeon who has not devised a modification of some one else's modification of this operation. The method of performing this operation, whether by the supra-pubic or the perineal route, is the question being most discussed at present. From my own experience with both methods I am at present inclined to favor the supra-pubic route as offering the best opportunity for total removal of the gland. In cases where the growth is markedly downward into the rectum with a normal urethral length, perineal prostatectomy is the operation of choice. In spite of the fact that one well-known surgeon has publicly stated that he had relegated perineal prostatectomy to the field of minor surgery, the operation by either route remains a formidable undertaking and one that should be thoughtfully considered before being employed. Whiteside[1] recently reports end results in 238 cases; of these 30 per cent. only could be considered absolutely good results. Not very cheerful reading this to the man with an enlarged prostate who is contemplating operation.

The statistics just quoted are the only ones that I know of giving end results: *i.e.,* the condition present at least one year after operation.

The investigator desiring to ascertain from a study of reported cases just what permanent benefit the operation of prostatectomy has been to the patient will find it no easy matter to arrive at a satisfactory conclusion; as most operators are content to merely report the number of cases operated upon and the mortality following the operation.

And right here it might be pertinent to ask the question, What has become of the conservative treatment of the hypertrophied prostate? Has the time come when the catheter is to be discarded in all cases and the patient advised to submit at once to operative measures? I know that this is the opinion of quite a number of prominent surgeons; but I fail as yet to see the need of such radical teaching.

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[1] American Journal of Urology.

Operation is undoubtedly indicated in advanced cases where there is marked atony of the bladder with complete retention and chronic cystitis, and where the introduction of the catheter is difficult, or painful, or causes hæmorrhage.

In another class of cases where there is some enlargement of the gland with three to four ounces of residual urine and the bladder uninfected, I think it is only right to the patient to give the catheter a fair trial, especially as the mortality from operative procedures is still fairly high—8 to 10 per cent.—and in view of the fact that so many men live out comfortable and useful lives on partial catheter life.

The great danger to be guarded against in these cases is infection of the bladder by means of a dirty catheter and by traumatism induced by rough handling of the instrument on the part of the patient.

To avoid this the following three points should be carefully looked into:—

1. *The selection of the proper catheter.* This should be either a soft rubber or single elbow Mercier catheter, preferably of the French make, olive-tipped.

2. *The sterilization and preservation of the catheter.* This is best accomplished by boiling for ten minutes after using and keeping the catheters wrapped in sterile gauze in a receptacle.

3. *Careful instruction on the part of the medical attendant as to the manner in which the patient should introduce the instrument so as to avoid traumatism.*

The surgeon should impress upon the patient the importance of these points and should be constant in his warnings to him not to relax his vigilance as regards the care of the instrument and the technique of the operation.

H. M. Christian.*

REMARKS ON THE TREATMENT OF MUSCULAR RHEUMATISM AND ALLIED PAINFUL STATES.

From the brief and partial review of the underlying factors conditioning muscular rheumatism and the large group of sensory disorders which arise from a common source, referable to the acidoses (given in the preceding article), it will be seen that their treatment, to be successful, must include the repair of several phases of constitutional depression along with that of a series of complex local derangements. The relief of the painful states is a secondary matter, and involves a wide range of rational measures.

The systemic perversions and perturbations include autotoxæmias, due to digestive disorders, various infectious traumata, fatigue, and suboxidation states, katabolism of a large and puzzling variety, with usually exposure to cold. These factors are active and retroactive, always demanding close scrutiny with points of contact to any of the whole gamut of morbific possibilities.

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Much can be done by fixing in the mind certain definite principles and working through such of these as the problem requires, selecting, adapting, and applying wisely. The need of the organism is for more oxygen; not only much more must be taken in, but the great oxygen distributers should be enhanced in all practicable directions. This is to be accomplished by using those agents which fortify and expedite the adrenal system by some drugs, but chiefly by supplying the depleted blood with its normal constituents which are here both vitiated and lost, especially the plasmatic salines. Not until the plasma is restored to its norm can the remoter cells secure enough of the vitalizing principle (oxygen) which is its function to distribute.

Next we may refer to the vitiated condition of the eliminating organs, especially of the liver, kidneys, and skin.

This is done, in great part, by relieving the system of the burden of disposing of too much food, too varied a diet, or of certain offending articles, of which it seems probable that excess of nitrogenous foods is the worst error.

The extreme simplification of ingested foods is of vastly greater efficacy than the most perfect selection of such items as are chemically permissible. It is by this means, reducing the diet to the simplest variety, that we secure, not only relief from the cardinal fault of excessive eating, but make the most reasonable demands upon those overworked organs on which the burden of elaboration falls.. At the same time the possibility must be borne in mind of impaired nutrition passing into exhaustions. Food in plenty may be taken which has failed to meet existing needs, whereas the cells cry in vain for what they sorely lack.

At all times, when the status of the patient permits, normal active exercises should be freely taken, and for the cogent but complex reasons pointed out by me elsewhere.

If full activities are not yet to be encouraged, it is important to supply substitutes, and massage and systematized movements, active and passive, will at once occur to the mind. Let me say here that much as I value these measures, it is my firm conviction that they should be employed with the same judgment, equal knowledge of the physiologic problems involved, and, above all, the same variants in character, quality, direction, force, and amount as is (supposed to be) given to the administration of drugs.

Let us review the measures which suggest themselves for the relief of a well-marked condition of muscular rheumatism. Not all will be needed in such instance; only those which are specifically indicated. From these may be chosen such as the case requires; also in minor derangements modifications will suffice.

Pain, when prominent, demands instant relief. The custom is to supply some drug which obtunds, the most common being opiates, now out of fashion. Dover's powder often acts magically, but is open to many objections. Salicylates are still much in vogue, but have not made any material impression upon the prevalence, progress, or complications of rheumatism. They are all cardiac depressants, gastric irritants, and produce so many evil by-effects that they deserve to be abandoned. A few well-directed doses often act satisfactorily, but salicylic acid in any form should never be continued beyond three or four days.

The coal-tar analgesics are often gratifying in intense neuralgic pains, but are untrustworthy, dangerous, sometimes fatal; only to be employed for emergencies and with great caution. The sodium and potassium salts—normally present in the plasma—are of much value. Benzoate of soda will often mitigate fierce pains, in doses of 5 to 10 grains every three to four hours, even oftener for a short time.

The bicarbonate is almost as useful. Much evidence is being adduced to show that this preparation is almost a necessary part of treatment in a number of acute and chronic conditions, among which are pneumonia, coryza, diabetes, emphasizing Sajous's strong recommendation that the essence of relief in some maladies lies in supplying the lost plasmatic salines. Hence the value of spas. In this connection it is well to note the as yet undefined efficacy of lithium, strontium, and bromine salts which, though foreign to the organism, are yet of a limited usefulness.

Bicarbonate of potassium is invaluable as a urinary stimulant, especially when to it is added fresh lemon juice, making a fresh citrate of potassium; 40 grains before breakfast and at bedtime is often most comforting. Sodium phosphate has a double value, acting mildly upon the liver and bowels, and also supplying two substances much needed in acid states.

A hot bath or locally hot water answers well; dry heat with pressure much better. A hot flatiron applied over flannel or a thick bath-towel, using slow movements with distributed pressure, will lessen local pains and deep-seated tenderness. To continue the effect of the local heat thin rubber tissue laid on will adhere and gradually dilate the surface vessels, acting the part of a poultice. It is cleanly, free from bulkiness, permitting the wearing of customary clothing, and encouraging activities. It is cheap and easily renewed. Every physician would do well to carry some with him in his emergency kit.

Hot-air treatment, up to 240° F. or more, by means of certain modern devices, cabinets or super-heated air chambers, is preëminent in certain cases. It, however, involves either the transportation of the bulky apparatus to the patient or the patient to the place of treatment, and demands expert handling. Dry heat is amazingly comforting; witness the universal use of the hot-water bag, the thermolite bag, etc. Salt or sand in a bag holds the heat rather better than water, and has the merit of being adaptable to the inequalities of surface—often a boon.

A simple way whereby myself and many grateful patients have achieved vast relief is to go to the boiler of the range and, removing the outer garments, adjust oneself to this large heated surface as much or little as is needed—back, shoulders, neck, face, or limb, using as much pressure and for as long as is comfortable. Cold sometimes is better than heat, and serves a useful purpose as an alternate.

In many acutely painful states, and in a much greater number of chronic ones, the most practicable and effective agent, both for analgesia and repair, is manipulation, finger or hand pressure, coupled with passive stretchings, rotations, and torsions. The rationale of these measures is not generally well known, hence would justify outlining if space permited. Suffice to say it includes emptying of lymph channels, limiting the number of sensory impulses passing through fibrils of nerves, improving normality of speed of nervous discharge, of central nutrition, relieving tension, infiltration in muscle and other tissues, and reflexly influencing tone of blood-vessels, hence, local congestions, etc.

It is a subject on which my enthusiasms have excited comment, because work of this nature, when employed at all, is usually relegated to one not medically educated. It is supposed to require too much muscular effort for the physician to use himself—which is not the case, because many of the procedures require but a few minutes and little effort, except to decide just what to do.

It is unfortunate that physicians take so little pains to acquire skill in personally applying this valuable measure. Massage, as ordinarily practiced, is of excellent utility, but limited scope, time-consuming to the patient, clumsy, and, too often by reason of deficient specific knowledge in the operator, inefficient in sensory difficulties. Some of the more intelligent and skillful exponents of the art are, however, so competent that to them is due the credit of relief, often of cures. The masseur may have been sought by the patient who, when benefited, blames the physician for not having earlier employed so excellent a remedy. He could, himself, have achieved equal or better results by less laborious but better directed manipulations. It might interest readers to learn why and how the author came to feel so strongly on the matter. Accident induced me, while acting as assistant to Weir Mitchell in 1882, to myself learn the practice of massage from a Swede, and since then have omitted no opportunity to study details from the best practitioners. Lecturing on the principles of systematic movements encouraged me to study the subject carefully, and now it is one of the most powerful auxiliary measures at my command.

In the whole array of painful states under consideration there are few instances when judiciously applied pressure, continuous, distributed, or alternated, has not some useful place. This will become clear to any deft-handed physician who will study the principles of massage as taught by the first masters. These have been cheerfully appropriated by certain non-medical practitioners who are wise enough to recognize the enormous efficacy of manipulations which they regard as sufficient for all needs. Clearly, this fact above all ought to compel full attention from the profession of scientific medicine.

In so brief a communication it is not possible to discuss the value of the ultra-violet rays, high-frequency currents, and other forms of electric manipulations. Suffice to say, that while these have accomplished much and promise more, we are here attempting only to describe those agencies which can be commanded by the average practitioner.

So great has been my satisfaction in the rational measures outlined, it has seldom proved necessary for me to seek for help outside those described.

J. Madison Taylor.*

Cyclopædia of Current Literature.

ABDOMINAL SYMPTOMS, ACUTE.

The author discusses the significance of acute abdominal symptoms as follows: *Pain.*—In perforations of the stomach and intestines the pain is usually extremely severe, constant, and burning, and, localized at first, it soon spreads over the abdomen. In rupture of cysts the pain is diffuse from the start, and not so severe. In rupture of the appendix the pain is usually associated with colicky pains in the umbilical region. Gall-stone pain is epigastric, passes through to the back and shoulder, and is not spasmodic. Renal or ureteral pain is of the same character, but shoots down to the scrotum and thigh. *Tenderness.*—This is marked from the first in cases of inflammation and rupture, and is greater on percussion than on pressure. The reverse is the case in strangulation. The seat of disease is generally indicated by an area of marked tenderness. In the passage of renal or biliary calculi, pressure seems to relieve the pain. *Abdominal Rigidity.*—This is a very marked symptom in peritonism, and is most marked over the seat of disease. In the early stage it is general over the abdomen. If it persists it means either rupture or general peritonitis. In bad cases it may disappear and give place to distention. *Vomiting.*—This occurs early in many cases and is not a sign of much diagnostic value. It is its persistence which is of the greatest importance, as pointing to some mechanical obstruction. The character of the vomited materials may be a guide. *Collapse.*—This indicates rupture, internal strangulation, or hæmorrhage. Its degree depends greatly upon the severity of the case, more especially upon the suddenness and amount of the extravasation. A slight leak will not have the same effect as a sudden and free discharge into a previously healthy peritoneal cavity. Collapse in inflammatory affections is of grave significance, pointing to perforation or gangrene. It is a strong indication for operation. *Rigor.*

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—This generally indicates some inflammatory condition. *Pulse.*—Increase in the pulse-rate is common; it usually rises comparatively slowly in inflammatory conditions. A rate of 120 or over indicates a serious state of affairs. *Temperature.*—Early elevation of temperature separates inflammations from strangulations, herniæ, etc. *Gas.*—This is always a sign of rupture of the alimentary canal. W. W. Cheyne (British Medical Journal, June 17, 1905).

ACID AUTOINTOXICATION IN INFANCY.

The acetone bodies are not found in the urine of comparatively healthy infants and children by the ordinary clinical tests. They appear in their urine under approximately the same conditions as in adults. Certain disturbances of digestion associated with the presence of the acetone bodies in early life have peculiar symptomatologies. It is probable that the peculiar symptoms are due, in part at least, to acid intoxication. It is also probable that the acid intoxication is not primary but secondary. The connection of the symptom-complex seen in many cases of recurrent vomiting with acid intoxication is probably even closer than in the digestive disturbances just mentioned. In these cases, also, the acid intoxication is presumably always secondary to some other abnormal condition, which may or not be digestive in origin. In any event, the etiology is obscure. In spite of the fact that the amount of the acetone bodies found in these conditions is relatively much smaller than those found in diabetes, the demonstration of their presence in connection with symptoms of gastro-intestinal disturbance and the symptom-complex of recurrent vomiting, and probably also with other conditions, is of importance both in diagnosis and in treatment. J. L. Morse (Archives of Pediatrics, August, 1905).

ADRENALIN, ACTION OF.

Apart from the general poisonous properties that are suggested by its chemical structure, adrenalin has one peculiar power, according to the writer. Independent body cells, nerve-cells and their processes, skeletal muscles and visceral muscles in union only with sacral and cranial visceral nerves are influenced by it, as they are by any featureless poison. Its single characteristic is the aptness to stimulate plain muscle and gland cells that are or have been in functional union with sympathetic nerve fibers. In all vertebrates the reaction of any plain muscle to adrenalin is of a similar character to that following excitation of the sympathetic (thoracico-lumbar) visceral nerves supplying that muscle. The change may be either a contraction or a relaxation. In default of sympathetic innervation plain muscle is indifferent to adrenalin. Extent of reaction varies directly with the frequency of normal physiological impulses to rapid change of tension received by the muscle in life through the sympathetic nerves. A positive reaction to adrenalin is a trustworthy proof of the existence and nature of sympathetic nerves in any organ. Plain muscle, when denervated, shows increase of the capacity for irritation by adrenalin than it had previously possessed. Sympathetic nerve cells with their fibers, and the contractile muscle fibers, are not irritated by adrenalin. The stimulation takes place at the junction of muscle and fiber. The irritable substance at the myoneural junction depends for continuance of life on the nucleoplasm of the muscle cell, not of the nerve cell.

Such peculiar irritability makes the profound biochemical distinction between all post ganglionic nerves of the thoracico-visceral class, whether motor or inhibitor, on the one side, and all other efferent nerves with their respective junctions on the other. T. R. Elliott (Journal of Physiology, July 13, 1905).

ANAEROBIC CELLULITIS.

Gas bacillus infection, while not a common disease, demands the attention of all surgeons because, while regularly fatal when untreated, its early diagnosis is easy and its successful treatment requires only the prompt and thorough application of well-established surgical principles. Either removal of entire disease by amputation or thorough exposure of its site to air and drainage seem the essentials to be attained. Free incisions, the continuous bath, or irrigation and wet dressings, have afforded the best results, and theoretically hydrogen peroxide is indicated. J. C. Stewart (Journal of the American Medical Association, August 19, 1905).

ANÆSTHESIA PRECEDED BY INJECTIONS OF STRYCHNINE.

In 1896 the author suggested the preparatory injection of strychnine in persons about to be chloroformed, as he had seen that after such injections the patient bore larger doses of the anæsthetic. This beneficial effect of strychnine is attributed to the action of this drug on the vasomotor system. The method which was adopted by the writer was to inject several doses of strychnine sulphate, $^1/_{30}$ grain each, into the patient during the few days preceding the operation. The dose depends upon the condition of the patient's pulse, the length and severity of the proposed operation, and as to whether the patient is suffering with arteriosclerosis, valvular disease, myocarditis, etc., or is in the habit of using intoxicants or tobacco to excess. The number of strychnine injections given before the operation varies, therefore, from one to twenty, and just before the narcosis ¼ grain of morphine is given. Under these conditions chloroform is borne with remarkably few accidents. I. Evenhof (Roussky Vratch, June 18, 1905; New York Medical Journal and Philadelphia Medical Journal, August 12, 1905).

ANÆSTHETICS, POISONOUS EFFECTS OF.

Chloroform (and ether to a very limited degree) can produce a destructive effect on the muscle cells of the heart and other muscles, resulting in fatty degeneration and necrosis very similar to the effects produced in phosphorus poisoning. The constant and most important injury done is that to the liver. The injury to the liver cells is in direct proportion to the amount of anæsthetic employed and the length of anæsthesia. As a result of this fatty degeneration and necrosis of the liver cells, toxins are produced either from the liver cells themselves or as a result of the failure of these cells to eliminate substances which, under normal conditions, they eliminate, but which under these abnormal conditions they fail to do, and these substances, therefore, may accumulate and produce toxic effects. These toxins produce a definite symptom complex which makes its appearance from ten to one hundred and fifty hours after the anæsthesia. This symptom complex consists of vomiting, restlessness, delirium, convulsions, coma, Cheyne-Stokes respiration, cyanosis, icterus in varying degree, and usually terminates in death.

It is probable that milder degrees of this poisoning are recovered from, and that the transient icterus noticed after chloroform anæsthesia without other evident cause is due to such poisoning, and many cases which exhibit restlessness, fright, mild delirium, drowsiness, etc., after anæsthesia may be due to the same cause. That chloroform is capable of producing these serious late poisonous effects is a strong argument against its employment, and an argument in favor of the more general use of ether.

The recognition of this danger of hepatic toxæmia is a strong argument against the employment of chloroform for long anæsthesia, as it can be shown that a two-hour chloroform anæsthesia is almost invariably fatal to rabbits and guinea pigs, from fatty degeneration and necrosis of the liver cells; and a two-hour chloroform anæsthesia in man is an exceedingly dangerous thing.

These facts in regard to the late poisonous effects of anæsthetics and the fact that the dangers increase with the amount of the drug employed, and with the length of the anæsthesia, form a strong argument in favor of rapid operating and in favor of limiting in every way possible the length of the anæsthesia and the dose of the anæsthetic. A. D. Bevan and H. B. Favill (Journal of the American Medical Association, September 9, 1905).

APPENDICITIS, CAUSES OF.

In the severer forms of the disease associated with abscess or peritonitis the micro-organisms can be readily determined. In the pus within or outside the appendix many varieties of bacteria are found, the bacillus coli communis most frequently. Ordinarily harmless, it may become virulent, especially where associated with streptococcus. Other organisms found in this disease are the staphylococcus pyogenes aureus and citreus pneumococcus, bacillus pyocyaneus, proteus, various anaërobic and putrefactive bacilli, and those of influenza, diphtheria, glanders, and tetanus. Actinomycosis may be a cause, and tuberculous and typhoid ulcers may be associated with it. The mucous membrane of the appendix contains Lieberkühn's follicles and Peyer's patches, also much lymphoid tissue. The function of the latter is to destroy invading microbes, but it may be destroyed by them with resulting appendicitis. The bacterial activity is at its maximum in the cæcum, and as the contents of the latter are fully digested and semi-fluid, they form a good medium for microbial growth. In many cases of the disease concretions, ulcers, and narrowing of the lumen act as contributing causes. True foreign bodies are rarely a cause. It is encouraged by constipation, the use of purgatives, indigestion, bad teeth, and the uric acid diatheses. It is three or four times more frequent in men than in women. It is very common among children, 40 per cent. of all cases occurring between the tenth and twentieth years. This may be due in part to the larger amount of lymphoid tissue in the appendix during the earlier years of life. Children are also prone to catarrh of the bowels, which may result in infection of the appendix. Several members of a family may suffer from the disease, thus showing a particular family tendency in this direction. Bottomley (Practitioner, June, 1905).

APPENDIX, RELATION OF PELVIC DISEASE TO.

Appendicitis favors the development of salpingitis, and salpingitis and other pathological pelvic conditions favor the development of appendicitis. Menstruation may favor the development of either one. The diagnosis of appendicitis in the female meets with greater obstacles than the male, and for this reason it is undoubtedly more often overlooked than in the male. This is probably one of the reasons, although not the only reason, that statistics show more cases of appendicitis in the male than in the female. Every gynæcological case should have the appendiceal region thoroughly examined before operation. It should be a part of every gynæcological celiotomy to examine the appendix. A pathological appendix should be removed at such celiotomy, when the patient's life is not endangered thereby. Every healthy appendix should be left, for in its removal the patient's life may be needlessly endangered. C. W. Barrett (American Journal of Surgery, September, 1905).

ARSENIC POISONING, TEST FOR.

The possibility of detecting arsenic in the tissues with the microscope has been studied by the writer, as well as the technique best adapted for the purpose. By transforming the arsenic in the tissues into arsenic trisulphide, a striking reaction can be obtained with it even in a very thin layer; the color is characteristic, and the localization of the substance in the tissues shows the distribution of the arsenic and throws light on its functions. Arsenic is transformed into the trisulphide by passing sulphureted hydrogen through its solution. The characteristic odor is lost at once, and the fluid turns yellow. A yellow precipitate is thrown down by long standing or by addition of a concentrated solution of HCl, $NaCl$, or $AlCl_3$. This yellow precipitate is arsenic trisulphide, and the greenish yellow crystals are readily recognized under the microscope. In examining tissues for arsenic, they are first fixed in 4 per cent. formalin for a day or so, then rinsed, cut into very thin sections, and placed in a fresh, neutral solution of sulphureted hydrogen for three or four days at a temperature of from 60° to 80° C.; they are then rinsed with alcohol and embedded in celloidin. The sections are then placed for from ten to twenty minutes in a 5 to 10 per cent. solution of hydrochloric acid to dissolve out the iron sulphide, and then rinsed several times, after which they are stained, cleared up in carbol xylol and mounted in balsam. On applying this test for arsenic in experimental research it was found that arsenic injected subcutaneously combined first with the plasma of the red corpuscles. This technique readily revealed its presence here and in the various organs, in the epithelium of kidneys and intestines, and especially in the muscle and liver cells, sweat glands, stratum corneum, and hairs. J. Justus (Dermatologische Zeitschrift, vol. xii, No. 5, 1905; Journal of the American Medical Association, July 8, 1905).

ARTERIOSCLEROSIS, HYPERTENSIVE CRISES IN.

Albuminuria (and cylindruria) in the subjects of generalized arteriosclerosis, where no other cause is at work, is always accompanied by a state of high blood-pressure. Intermittent attacks of hypertension of the pulse and concomitant albuminuria, separated by longer or shorter intervals of normal blood-pressure during which the urine is normal, may be the only clinical expressions of a generalized arteriosclerosis.

Therapeutic relief of hypertension in this general class of cases, if not carried too far, will tend to relieve the pathological condition of the urine. In a certain number of cases we may reasonably hope by this means to postpone the onset of chronic renal changes. J. B. Briggs (American Journal of Medical Sciences, August, 1905).

ASTHMA.

The writer states that asthma has no distinctive pathology, and the lesions that actually cause it have not as yet been discovered, but the essential cause of the disease is probably some organic lesion of the nerve centers of the medulla, though this has not yet been demonstrated. Although the views of causation, especially as regards the nose, are very divergent, the fact which stands out distinctly, in all that has been written, is that peripheral or central irritations in certain individuals of a neurotic temperament produce a characteristic, distressing, periodic dyspnœa which is *sui generis;* it is unlike the dyspnœa of destructive lung disease; it is entirely different from cardiac or uræmic dyspnœa; it is well defined and unmistakable in the suddenness of onset of the paroxysm, the seeming gravity of respiratory insufficiency that makes those about the patient fear that death is imminent, and in the more or less rapid return to a normal condition. It is the consensus of opinion that this uniformity entitles asthma to be considered as a disease and not as a symptom. The writer has been able to find the record of only three autopsies on asthmatics, and in none of these was anything characteristic discovered. Thus far no change in the nerve centers has been discovered to which the disease can be positively attributed; we are consequently driven to the hypothesis that there must be a molecular change in the nerve centers or a periodic disturbance in their vascular supply, and that, as stated, the asthmatic attack, like that of urticaria, migraine, or epilepsy, is the culmination of a series of irritations transmitted to the nerve centers, which finally result in the explosion which, in this case, is the asthmatic paroxysm.

Of the list of drugs recommended, the writer has had the most success with potassium iodide. He doubts the universal utility of operative work in the nose, and says that there must be internal treatment directed to the underlying cause in the brain, respiratory, and vasomotor centers. Every asthmatic should have his nose examined and treated, if necessary, but it must be borne in mind that the asthmatic is such not because of some abnormality in his nose, bronchi, or in some other organ, but because at bottom there is a derangement of his entire nervous system and an irritable condition of his nerve centers with explosions in the domain of the vagus nerve. S. Kohn (Medical Record, August 26, 1905).

ASTHMA, PROGNOSIS OF.

The successful management of asthma is an art to be acquired only by years of patient study and clinical observation. The prognosis in uncomplicated cases of the condition is positively good. Nature may require two or three years to bring about a cure, and during that time the patient should be under constant supervision of a physician. Rules essential to successful management of a case are: Physiologic measures are, when possible, to be substituted for drugs; blood showing an excess of lymphocytes indicates the withholding of lymphogenous foods, as milk and raw oysters; blood giving a pronounced iodophilia indicates the withholding of starches; a lack of fibrine elements in the blood indicates the giving of gelatine; a toxic cadaveric stool indicates withholding proteids or meats; urine containing indican, intestinal toxæmia, indicates restricted diet. G. N. Jack (Buffalo Medical Journal, August, 1905).

BRADYCARDIA.

The writer holds that a diagnosis of bradycardia cannot be based solely on the pulse-rate. To establish an absolute diagnosis it is essential to note, in addition to the pulse-rate, the character of the heart sounds and to take tracings of the arterial and venous pulses, as well as of the apex beat. In the two cases reported tracings of the arterial pulse alone were taken. The first patient exhibited, in a general way, the symptoms of Stokes-Adams disease. The syphygmogram of this patient shows a pulse-rate of twenty-six and one-half beats a minute. There was great regularity in the duration of each pulsation as well as in the height of the stroke. The second patient had a pulse-rate of fifteen to thirty a minute. There was considerable arhythmia, and there were no Stokes-Adams symptoms. Both patients eventually died. The author is of the opinion that in both cases the bradycardia was due to lowered automatic excitability. George Dock (Medical News, August 19, 1905).

CEREBRO-SPINAL MENINGITIS, MANNER OF INFECTION IN.

A valuable pathological study, based on a series of 30 autopsies, has been made by the writer. The results of his investigations seem to show that the point of entrance for the infectious germs is the posterior nasopharynx, and particularly the pharyngeal tonsil. The meningitis is at first invariably a basilar process and centers in the region of the hypophysis. It takes place in a lymphogenous manner. The involvement of the cranial cavity is analogous to the inflammation of the mucous membrane of the accessory sinuses connected with the nasopharyngeal space. A meningitis of this type never, or at least very rarely, occurs by the extension of an inflammatory process from the ethmoid cells. The writer claims that both adults and children who happen to be attacked by this disease show distinct evidences of the so-called lymphatic diathesis. The disease is due to the inhalation of the infectious organism and its prophylaxis is essentially hygienic. The meningococcus Weichselbaum-Jäger is found in the majority of cases, although it is by no means decided that it is solely and alone the cause of the disease. The fact that many other cocci are found with this coccus, either alone or in a mixture, makes it probable that all of these bacteria play only a secondary rôle in the etiology of the disease and that the real etiological factor has not yet been discovered. This seems to be analogous with the streptococcus infection in scarlatina. Westenhoffer (Berliner klinische Wochenschrift, June 12, 1905; Medical News, August 19, 1905).

CHANCRE AND CHANCROID, TREATMENT OF.

The venereal ulcer of the penis is best treated by simple mechanical cleanliness, the frequency with which it must be washed to secure cleanliness varying with the intensity of the infection and the amount of discharge. Mercurial solutions are slightly preferable to others, probably, because they form with the discharges an insoluble albuminate of mercury. Iodoform seems to have only slight specific action, and on account of its disagreeable and compromising odor should be reserved for the most severe forms of infection. Deformities of the foreskin forming mechanical obstruction to the circulation or to cleanliness should be relieved at once, but operations for cosmetic effect should not be performed in the presence of infected ulcers. D. E. Wheeler (American Medicine, August 19, 1905).

CHOLELITHIASIS, EXPERIMENTAL CONTRIBUTION TO TREATMENT OF.

Gall-stones introduced into a normal gall-bladder become dissolved within a comparatively short space of time, in about eight or nine weeks. When a mild degree of cholecystitis is set up gall-stones inserted into the gall-bladder do not disappear, although there is always a reduction in weight. Ichthoform, cholelysin, olive-oil, and calomel do not appear to have any effect in resolving calculi introduced into a gall-bladder, the mucous membrane of which is inflamed. During a course of the Harrogate old sulphur water gall-stones become disintegrated in cases of cholecystitis experimentally induced. In the treatment of artificially-produced cholelithiasis a mixture of urotropin and iridin has a pronounced effect in causing dissolution of the calculi. In regard to the action of barium chloride further experiments are necessary to determine its rôle in experimentally-produced cholelithiasis. William Bain (British Medical Journal, August 5, 1905).

CHOLELITHIASIS: TREATMENT.

Inasmuch as nux vomica preparations increase peristalsis slightly, and calomel in non-laxative doses increases secretory flow, the author advises them in combination to prevent the formation of gall-stones. With sufficient peristalsis and biliary flow "residual bile" is almost impossible, and without residual bile, gall-stone formation and infection is almost unknown, and without infected bile, cholecystitis and gall-stone colic are very rare. If stones are present, it is possible to sweep them out by employing these drugs. The action of nux vomica as a stomachic also aids the prevention of gall-stones by increasing the appetite and thus exciting the formation of a larger amount of bile. The treatment of cholelithiasis must first concern itself with the removal of the impediment to the flow of bile, and where this can be done medicinally, it must be by regulating the mode of living, diet, and intestinal peristalsis; and by the prevention of infection, without which there is no gall-stone colic. In the interval between colics the following preparation is advised by the writer:—

℞ Mild chloride of mercury,
Extract of nux vomica, of each, gr. vj-viiss.
Aromatic powder,
Extract of rhubarb, of each, gr. xxiiss.

This is to be made into thirty pills, and from two to three given daily. Neither diarrhœa nor intestinal colic is produced by this, but gastric oppression, sensation of fulness, and distention, constipation, diarrhœa, jaundice, and loss of appetite, also asthma, are made to disappear. Gall-stone colic requires morphine, and a pill made up of

℞ Podophyllin, gr. iij.
Mild chloride of mercury, gr. vj.
Extract of nux vomica,
Extract of belladonna, of each, gr. ivss.

This is to be made into twenty pills, and a pill taken every two hours until the patient is better, when one or two pills are taken daily. If diarrhœa results, the first pill should again be returned to. A. Hecht (Therapeutische Monatshefte, Bd. xviii, 172, Nu. 4, 1905; American Medicine, August 12, 1905).

COPPER AND ZINC POISONING.

Copper smelting is a dangerous occupation, because of the tremendous amount of dust which rises from the fire when feeding the furnace, and men cannot work long in this position; they contract both the lighter and more severe pulmonary diseases; where the ore runs a high percentage of lead and arsenic, cases of severe poisoning occur and paralyses are not uncommon.

As zinc occurs with sulphur, lead, and arsenic as impurities, the effects of zinc roasting is about similar to that of copper, with the addition of the so-called ague seizure and its accompanying symptoms.

The chills occurring in brass workers are due to zinc for the following reasons: Oxide of copper is not volatile, while zinc oxide is very readily volatile; chills do not occur among melters of pure copper; in the roasting of zinc ore the men suffer from similar symptoms; chills do not occur while making bronze, which contains much copper and but little zinc; workers in zinc oxide suffer from a like complaint.

The respiratory influence of brass-making in the course of time is bad, but depends largely upon the means of ventilation; the respiratory effect of polishing is not bad, providing the workers are protected by the proper suction apparatus; under poor conditions both occupations can lead to serious results. Working over the sulphuric acid bath is the most dangerous part of the trade. Sand blasting is detrimental to health, corresponding to the dangers of stone-cutting.

The gastro-intestinal effects are seen more particularly in filers and polishers, who transfer dust and filings to their mouths. Copper here plays a great factor, as do lead and arsenic in metal of poor quality. Nervous results, due to copper and zinc, the author has not been able to prove satisfactory; those reported by the English authorities as due to copper are open to question. Schlockow reports cases among zinc workers with sclerosis of the anterior and lateral columns of the cord. These the writer has been unable to verify among workers in zinc ore that contains but a small amount of lead and arsenic. Muscular and joint pains complained of by metal founders can be ascribed to the changes of temperature to which they are subjected. Heat prostrations occur in hot weather. Alcohol must be borne in mind when the bad effects of metallic working are looked for. M. H. Sicard (Medical Record, August 5, 1905).

CORYZA IN NURSLINGS, TREATMENT OF.

Acute coryza of nurslings is not by any means a harmless affection; the occlusion of the nasal passages and the accumulation of the secretion, by obstructing nasal breathing, have a number of sequelæ. Nutrition is seriously interfered with, and lung diseases are predisposed to. The method of treatment used by the writer is as follows: Adrenalin preparations are used in preference to cocaine, because of the slighter toxicity. Small cotton tampons are saturated with adrenalin solution, 1 to 1000, and introduced into the nasal orifices alternately and kept there for two to three minutes; the mucous membranes become anæmic and the swelling decreases. This has to be repeated three to four times daily, as the adrenalin action persists only about four hours. A cure is usually produced in a few days. The fluid secretion diminishes quickly, and the crust formation must be treated with white vaselin. In weak infants, in whom the acute infection often passes into a persistent rhinitis, characterized by bloody muco-purulent secretion, in addition to the adrenalin, ½ to 1 per cent. solution of silver nitrate is employed, permitting one drop to enter each nasal orifice daily. The treatment must be continued beyond the time necessary to produce a cure. Of 75 children with coryza, 48 were treated according to this description; 6 developed bronchitis, 1 very weak infant died of broncho-pneumonia; of the other 27, 12 developed bronchitis, 1 died of pneumonia. The nutrition of the latter group suffered much more than that of the former. Syphilitic coryza was also favorably influenced, and there have been no more deaths from lung complications in this disease since this treatment has been applied. L. Ballin (Therapie der Gegenwart, Bd. vii, Nu. 2, 1905; American Journal Medical Sciences, September, 1905).

DIABETES MELLITUS, IMPROVEMENT IN TREATMENT OF.

The improvement in the treatment of diabetes in the last ten years is undoubted, and is in great measure due to the substitution of facts for guesswork in diagnosis. One of the greatest advances is that in quantitative analysis of the urine. Of almost equal importance is the examination of the twenty-four-hour quantity of urine instead of a single specimen. The knowledge of the amount of carbohydrates in the diet of diabetic patients was practically unknown ten years ago. At that time the only attempt to determine the amount of carbohydrates in the diet of these patients was directed to the exposure of the starch in gluten flour. The author states that it is a great gain to medicine that to-day it is known that bread and cereals contain 60 per cent. carbohydrates; potatoes and bananas, 20 per cent.; grape fruit and oranges, from 4.5 to 10 per cent., and milk, from 3 to 5 per cent. The physician by the more accurate knowledge of the severity of the disease, becomes less easily discouraged in its treatment. One cannot expect to arrest the case of diabetes in which the tolerance is less than *nil* any more than one can arrest a tuberculous process which has reached the cavity stage. The urine must be rendered free from sugar, and to do this especial attention must be paid to the diet. This may be obtained by the withdrawal of the carbohydrates. It may be necessary also to limit the quantity of albumin ingested. If this does not suffice, the patient must be put on a strict vegetable day, and occasionally a starvation day will be necessary. When once the urine has been freed from sugar the patient should be kept on the same diet by which this has been attained for several days; then cream may be added to the diet, and later, milk. The writer says that a diabetic diet is really a diet in which the carbohydrates are replaced by fat. It is necessary for the diabetic individual to eat from two to five times as much fat as usual. Comparatively little of this fat can be taken as meat, and this necessitates the use of much cream, butter, and oil. The diabetic's chance for life depends on his ability to eat fat, and consequently great care must be exercised not to prejudice him against its digestibility. It is well to remember that fat is very well digested, as a rule, if taken in the form of milk-fat or oil. Not over 5 per cent. remains unassimilated, and this rule holds good for diabetics except in one of those most rare cases of marked pancreatic disease. Drugs do not permanently increase the tolerance for carbohydrates. Circumstances may arise in the course of diabetes just as in any chronic disorder when they are indicated, but there are as yet no specific remedies. The treatment of coma, the author states, is chiefly preventive. E. P. Joslin (Boston Medical and Surgical Journal, July 6, 1905).

DIABETES MELLITUS, ORAL MANIFESTATIONS OF.

Diabetes mellitus is included by the author as one of the diseases producing a distinct form of pyorrhœa alveolaris, which, according to some physicians, is classed as a prodromal sign of the primary disease. Not any one organism is recognized by the writer as the cause of the pyorrhœa, but he considers that its general depressant effect on nutrition is sufficient to make way for the infection. While sugar has not been found in the saliva, the acid action that is produced is followed by an increased sensitiveness about the necks of the teeth. The circular ligament becomes swollen and relaxed, thus affording a ready gateway for the micro-organisms. Pus pockets and necrosis naturally follow, and, according to Arkoevy, a distinct separation of the two upper centrals occurs. The upper arch becomes weakened in consequence, and more or less prognathism occurs. The rapid formation of soft, light-colored tartar is another diagnostic symptom. As far as local therapeutics is possible, the usual routine treatment should be followed, but little can be expected during the continuance of the primary disease. Hermann Prinz (Journal of the American Medical Association, August 12, 1905).

DIAGNOSIS, ERRORS IN.

In discussing errors of diagnosis, the writer considers first those arising from the mistakes in the interpretation of symptoms. Fatal cases of angina pectoris associated with extensive fatty degeneration of the heart are often overlooked and the pain attributed to myalgia. The occurrence of vomiting is often of great importance; cases of cerebral hæmorrhage ushered in by vomiting are often looked on as mere dyspepsia. A symptom that is often overlooked is the occurrence of retention of urine or local or general peritonitis which is running a latent course. A far more important cause of error in diagnosis is the very frequent presence of serious organic disease without the occurrence of symptoms of sufficient intensity to attract notice. General suppurative peritonitis, dependent even on perforation, may be present without the cardinal symptoms—pain and vomiting. Cerebral tumor, abscess of the brain, and cerebral aneurism may all reach a high degree of development without the presence of any noticeable symptoms. Pleural effusion is especially apt to run a latent course—one whole side of the chest may be full without symptoms. Gastric ulcer, cirrhosis of the liver, tuberculous peritonitis, and renal disease are also instances of serious organic disease liable to run a symptomless course. The most important source of error with regard to the interpretation of symptoms arises from the attribution of acute symptoms to the onset of acute diseases, whereas in a very large number of instances acute symptoms arise in the course of chronic disease. For instance, sudden acute intestinal obstruction occurring in those apparently healthy, is sometimes dependent on obstruction produced by chronic tuberculous peritonitis. Sudden paraplegia, simulating an acute transverse myelitis, may occur in such chronic and progressive diseases as malignant disease of the spine or aneurism. Mistakes in diagnosis arise not only from want of examination, but also from the want of repeated examination. This latter is necessary because in organic disease the signs are sometimes transitory, or at any rate, not persistent. The physical signs of disseminated sclerosis—the ankle clonus, the diplopia, and even the hemiplegia are often variable and transient in their occurrence.

The erroneous interpretation of physical signs is another very common source of error; this applies especially to the chest. Mimicry of organic by functional disease often leads to mistakes, as in functional and hysterical palsies on the one hand, and in disseminated sclerosis on the other. In another group of cases inflammatory mischief in the chest simulates acute abdominal affections, such as peritonitis. Another potent cause of error in diagnosis arises from the fact that many common diseases are apt to exist in anomalous form. Some errors are dependent on treatment; the too ready administration of morphine often hides the signs of abdominal disease; meningitis may be erroneously diagnosticated in phthisis where the trouble is due to atropine given to relieve cough. Alcohol may be pushed to such an extent as to produce coma, which may be regarded as dependent on the underlying disease. J. R. Bradford (British Medical Journal, June 10, 1905).

DIGESTION IN THE INSANE.

In states of mental depression (melancholia) hyperacidity is the rule, occurring in 71.4 per cent. of von Noorden's 14 cases, 81.8 per cent. of the author's 22 cases, or in 77.7 per cent. of all cases (36 in number). Males and females are equally affected. This hyperacidity is due to a true hyperchlorhydria. Hyper-total acidity also occurred in the present series of cases, and in this respect they correspond exactly with those reported by von Noorden. The hyperchlorhydria is of moderate degree, is fairly constant, and is associated with increased peptic power and rapid evacuation. The increased secretion is due to the neurosis or psychosis and not to proliferative changes in the glands, as is evidenced by the presence of increased secretion associated with degenerative changes in the glandular elements, and of the entire mucosa.

The evacuation of the stomach is usually normal or somewhat hastened after the Ewald test breakfast, while after the large stimulus of the Riegel meal and ordinary asylum meal, it is more frequently hastened. In the cases showing hyperchlorhydria the peptic value is never below normal and is frequently increased.

Many of the insane suffer from various forms of gastro-intestinal disease. These conditions are very frequently overlooked, probably because complaints and delusions of the digestive tract are so common in these patients. Personal experience and the results of this investigation prompt the authors to urge the absolute necessity for systematic routine examinations of all the secretions and functions of the body, including what is often a very difficult task, the examination of the stomach contents. The signs of disease in the insane are almost wholly objective, and here, more than in normal mental states, it is essential that every modern method of value should be exhausted in order to arrive at a complete diagnosis of the case. Cancer and ulcer of the stomach may thus often be recognized in its incipiency. Chronic gastritis in its several forms, as well as the painful neuroses, will also often be encountered. If proper treatment be instituted, it is not at all improbable that the mental symptoms in these cases will proportionately decrease. D. M. Cowie and F. A. Inch (American Journal of Medical Sciences, September, 1905).

DIPHTHERIA.

The authors have reached the following conclusions in regard to the prophylaxis of diphtheria: Every individual who is attacked with diphtheria should be isolated, as well as every individual who may be suffering with any disease which has for its cause the bacillus of Löffler. Every convalescent should be isolated who shows diphtheritic phenomena, and in whom the specific bacillus is found in consecutive bacteriological examinations, made at an interval of at least eight days. If this bacillus still persists after forty days of convalescence, the patient may be allowed to go out, but the physician in charge must be instructed to keep a watchful eye upon the surroundings. There should be collective isolation of all contaminated localities with daily medical attendance, when it is possible, for fifteen days after the appearance of the last pathological phenomenon which can be attributed to the Löffler bacillus. The antidiphtheritic serum should be injected as a preventive measure, in those who are in suspicious surroundings, whenever there are pronounced evidences of infection in the community, provided the number of those who may possibly be infected does not render such a measure impracticable. All objects and localities which could possibly be infected by a person attacked with diphtheria, within a radius of a meter of the individual, should be disinfected. Roussel and Job (Revue de Medecine, July, 1905; New York Medical Journal and Philadelphia Medical Journal, August 12, 1905).

DISLOCATIONS OF THE SHOULDER-JOINT, REDUCTION OF.

The following method is recommended by the author, which he states has been successful in one case in which Kocher's method has been tried twice without success. If the dislocation is of the right shoulder the surgeon places himself on the right side of the patient, flexes the patient's forearm on the arm, so as to form a right angle, gently, with an abducting movement, lifts the arm into a vertical position until the elbow is over the shoulder, the forearm horizontal, the hand above the head, and maintains it in this position by holding the wrist with the right hand. The surgeon then places his left forearm in the bend of the patient's elbow, seizes the lower part of his own right arm with his left hand and then makes gentle traction as if he would lift the patient, whose weight makes a counter-extension. The scapula basculates, the glenoid cavity is turned upward and forms the base of a cone formed by all the muscles of the arm. After waiting about half a minute, without ceasing traction, the surgeon rotates the arm back and forth about its axis, to liberate the head of the humerus.

During this manipulation the head of the humerus is usually felt to slip into the glenoid cavity. He then places his left knee in the axilla, seizes the arm at the level of the elbow without ceasing to pull it upward, lowers it horizontally in abduction, supports the head of the humerus by the fingers of the left hand in the axilla and carries the elbow close to the body. H. Huguier (Presse Médicale, July 12, 1905; New York Medical Journal and Philadelphia Medical Journal, August 12, 1905).

ECTOPIC PREGNANCY.

Sterility does not necessarily precede the development of ectopic pregnancy. If it does exist, its cause is often the same as the cause of the abnormal pregnancy.

The main characteristic of the bleeding in ectopic gestation is its great irregularity, there being no type. As a general rule it is not profuse. It may be constant or intermittent, and its character or profuseness has no relation to the type of the lesion. A chilly feeling often accompanies the bleeding, and vomiting and nausea may accompany the first flow. The uterine flow has apparently no connection with the death of the fœtus.

The pain in tubal pregnancy is usually localized over the site of the lesion. It has no definite character; it may be cramp-like over the affected tube, it may similate labor pains, it may be sharp and sudden, or it may be of a bearing-down nature. The pain during a tubal abortion and that concomitant with the presence of a hematosalpinx, is usually cramp-like.

The usual symptoms of pregnancy may be present. They are frequently absent, but their absence does not militate against the possibility or probability of an ectopic pregnancy. Tenderness on palpation of the mass adjacent to the uterus is of great diagnostic value when taken in connection with the history and the other pelvic findings. A rise of temperature between 99° and 100° F., in the absence of signs of infection, is worthy of consideration in the diagnosis.

The causative factors of tubal pregnancy are probably numerous. Not one element but many may bring about the connection in different instances. It is likely that atavistic tendencies, congenital or acquired anomalies, pelvic inflammations, ovarian and tubal disease, all play a rôle in individual cases; but none of these factors alone is sufficient to explain all cases.

As yet there is no definite data by which all the varieties of ectopic gestation can be diagnostically differentiated between. Occasionally this may be done, but it is impossible always to distinguish between an unruptured tube and a tubal mole. A hematocele and a freshly ruptured tube can almost always be differentiated from the other usual lesions. The value of Werth's dictum, to regard every unruptured tube in the light of a malignant neoplasm, has not diminished with the years. S. M. Brickmer (Medical News, August 12, 1905).

ENTEROPTOSIS AND PENDULOUS ABDOMEN.

Three causes for the displacement of the abdominal viscera are recognized by the author: 1. Relaxation or stretching of the abdominal wall. 2. Change in the form of the cavity. 3. Stretching of one or more of the suspending ligaments. One test of the condition of the abdominal muscles is the change of position of the umbilicus on coughing when standing and when lying down. With a moderate degree of pendulous abdomen the umbilicus rises 1 centimeter or more on coughing in the standing position, but not when reclining. This is a reliable index of the amount of the relaxation. The upper half of the rectus being relaxed, the umbilicus sinks. On coughing in the upright position, the upper half of the muscle contracts and raises the umbilicus. The intensity of the symptoms does not correspond to the degree of ptosis present. Very high degrees may exist without any symptoms; on the other hand, slight downward displacement may entail striking symptoms. Often the ptosis is so slight that it is not recognized. This is frequently important, because otherwise ineffectual treatment becomes successful when the abdominal wall is supported and strengthened. In many cases these measures alone are sufficient. To illustrate his statements, the author reports a number of cases, emphasizing the fact that in all disturbances dependent on enteroptosis an important point to bear in mind is that they appear pronounced in an upright position, and on lying down become much diminished or vanish entirely. Often immediate relief will be obtained by supporting the abdomen below the umbilicus with the hand. Besides the ordinary symptoms, backache, sideache, and dyspepsia may be noted. The backache may be a radiation of the epigastric pain. It then corresponds to the lower thoracic vertebræ. In case of a large, fatty abdomen it may be due to fatigue of the sacrolumbalis muscle, since the displacement of the center of gravity toward the front necessitates correction by constant backward bending of the spine. The pain in the side may likewise be partly muscular, partly due to traction from the splenic flexure of the colon. The disturbances in breathing with pendulous abdomen may be easily overlooked, because the effect of pressure by the intrathoracic fat and the upward pressure of the diaphragm by the intra-abdominal fat attract more attention. Not only is the expiratory power lessened by loss of tone in the abdominal muscles, but the bottom of the thorax is dragged down with the sinking of the viscera, and the elastic pressure exerted by the bowels on the under surface of the diaphragm is still further reduced. The pressure may even be negative, as shown by the occasional sinking in of the epigastrium. The relations between the diaphragm and the ribs are disturbed in many ways, and this is liable to induce disturbances in breathing from muscular fatigue. Ordinarily, this manifests itself by shortness of breath on exertion or even on standing up, less frequently, by attacks of dyspnœa, distress, and cardiac oppression. Sometimes a paroxysm of weakness and dizziness accompanies these sensations, and disturbances of the vascular tone from stretching of the splanchnic nerve may also play a part. The conceptions of enteroptosis and pendulous abdomen are not exactly identical, since with normal abdominal walls a single viscus may sink, while, on the other hand, mechanical pendulous abdomen, without the sinking of any viscus, may be occasioned merely by deposits of fat. Most cases of enteroptosis are accompanied by a more or less pendulous abdomen, and this is important for treatment. The insufficient abdominal muscles may be strengthened and the stretched abdominal walls supported with a bandage. Thus, by pushing back the small intestine the position of the higher abdominal viscera may be indirectly improved.

The abdominal support should be supplemented by doing away with every constricting band, the support for drawers and skirts being partly or entirely transferred to the shoulders. H. Quincke (Therapie der Gegenwart, Bd. xlvi, Nu. 1; Journal of the American Medical Associaion, July 22, 1905).

EPILEPSY.

In formulating a line of treatment, it must be borne in mind that in the pathogenesis of epilepsy there is autointoxication, increased irritability of the nervous system, deficiency of vasomotor tonus and circulatory capacity, and, lastly, cerebral sclerosis, and the plan of treatment must consider in due proportion these four factors, even though it is possible that the first factor is the foundation of the other three. Another thing must be emphasized, and it is that treatment must be continued for at least five years. Many treatments have come into undeserved disrepute, simply because patients have not been kept under observation for a sufficient length of time. A patient should not be considered cured unless he has been free from convulsions for at least five years. Brower (Boston Medical and Surgical Journal, August 3, 1905).

GASES OF THE BODY.

The writer states that some of the gases, like oxygen, nitrogen, and carbon dioxide, are essential to existence, but others are waste products, and appendicitis, intestinal obstruction, ovarian disease, and heart troubles may be simulated by their presence in the intestinal tract. Nitrogen, oxygen, carbon dioxide, sulphureted and carbureted hydrogen, and marsh gas are the principal gases of the body. Carbon dioxide is the greatest in volume and the most widely diffused. It has usually been designated as a poisonous gas, but modern physiologic chemistry takes a different view of it, and it can be considered poisonous only when it is an obstruction of respiration. Large amounts may be found in the stomach and bowels in health, and still more in neurotic conditions, but its coefficient of absorption is high and but little inconvenience results. The accumulation of gas in the bowels may give rise to diagnostic difficulties, and the author cites several such cases. Lactic, acetic, and butyric acid fermentation, and the decomposition of fats, proteid matter, and cellulose are all concerned in the formation of intestinal gases. When loops of gut are strangulated, first, water, and, later, gas forms in them, giving rise to meteorism. Phantom tumors are of this order. Headache, vertigo, and nausea are often the result of the presence of sulphureted hydrogen in the bowel. The formation of intestinal gases must be controlled by proper management of the diet. L. H. Watson (Medical Record, August 5, 1905).

HEAD INJURIES.

All cases of head injury, no matter how slight, are liable to be followed by intracranial hæmorrhage, as much as thirty-six days having been known to elapse between the time of injury and the formation of a clot large enough to produce marked symptoms of compression. Any case of severe concussion is liable to be accompanied by laceration of brain substance and cerebral hæmorrhage. Immediate surgical intervention, if there is compression, is the only means in most instances of getting a clear conception of the conditions present and of remedying them. Since lesions of the central nervous system produce death by respiratory, rather than cardiac, paralysis, an anæsthetic is to be given cautiously in any case of brain compression. Most cases of compression can be operated on after dissecting the scalp flap without anæsthesia, since the skull, dura, and brain are insensible to pain. Rigid asepsis is essential to success and the prevention of unpleasant sequelæ in the surgical treatment of any case of head injury. W. S. Wiatt (International Journal of Surgery, September, 1905).

HERNIA FOLLOWING ABDOMINAL SECTION, THE PREVENTION OF.

The writer affirms that the following rules will give the largest percentage of successes in clean cases: The incision should always be made along the line of the muscle, rather than in the tendinous lines, and the muscles should never be cut, but the fibers should be separated with the handle of the knife. The wound should be sutured in layers, similar tissues being carefully approximated, and special attention being paid to closure of the aponeurosis, which is the source of the greatest strength to the abdominal wall. The hæmostasis should be as perfect as possible, and there should be no dead spaces in the wound. However careful one may be, there is no absolute asepsis, and a blood clot in a dead space is a favorable culture medium. Suppuration in the wound means permanent weakening of the abdominal wall. Payne (International Journal of Surgery, August, 1905).

HERNIA OF THE PELVIC FLOOR, NEW OPERATION FOR.

After two attempts to correct a complete hernia of the pelvic floor, the writer finally succeeded by performing an operation which is described as follows: With the patient in the Trendelenburg posture, a median incision of good length was made; approximately one-fourth of the entire abdominal contents were withdrawn from the hernial sac, the pelvic floor steadied, and the hernia reduced. The bladder was found well down in this cavity and totally prolapsed. An antero-posterior incision was made across the middle of the floor of the pelvis, dividing the vagina into two lateral halves. The vaginal mucous membrane of the part to be brought through the abdominal incision was removed. The bladder was separated from the vagina for some distance downward. It was then found that the vagina and the floor of the pelvis had been so stretched that they could easily be brought out through the abdominal wound beyond the surface of the skin. After making an incision through the abdominal fascia 4 centimeters from the median line on each side, the fibers of the recti were separated and the peritoneum perforated. Each half of the split vagina with the attached utero-sacral and utero-pelvic ligaments and all the other structures of the floor of the pelvis, together with the round and broad ligaments, were drawn out through these openings on each side of the median incision. While the parts were well up in place so that the top of the incised vagina presented closely against the under surface of the peritoneum, the latter was sutured in this position with plain catgut. The original peritoneal incision, the muscle, and the external fascia were then closed, the latter by continuous sutures of chromicized gut, after which the freed ends of the vagina and pelvic floor, which had been drawn up through the lateral openings in the peritoneum, recti, and fascia, were united in the middle line by means of chromicized gut. The skin was then closed. The patient made a good recovery from the operation and was discharged in three and one-half weeks. For some time after the operation the patient felt a sensation of dragging on the wound and experienced some pain. This passed away after several months. She has been doing her usual work, and at the present time, more than three years after the operation, there has been no recurrence of the hernia. The author states that the indication for this operation exists only in the cases of complete hernia (proxidentia). In the minor degrees of prolapse it would be quite impossible to carry out this technique for want of sufficient length of ligaments and of vagina to reach to the external fascia. G. W. Crile (Cleveland Medical Journal, July, 1905).

INFANTILE INTESTINAL INFECTION, TREATMENT OF.

The writer describes in detail a number of cases of a certain variety of intestinal infection in infants for which he seems to have evolved a successful method of treatment. The microscope revealed the constant presence in the stools of a strictly anaërobic bacterium, a mixed proteolytic ferment, the *bacillus perfringens,* which has a powerful fermentative action. None of the other bacteria isolated from the stools had a mixed proteolytic action; they were all peptolytic ferments. He endeavored to arrest the proliferation of this *bacillus perfringens* in the intestine by utilizing the antagonistic action of other bacteria. Mixed ferments, by producing acids, check the simple ferments, and the mixed ferments arrest their own proliferation when the acid production reaches a certain height. The author cites as an instance that the putrefaction of meat can be arrested and all microbian action paralyzed by adding a small amount of glucose to the medium. Consequently, he reasoned that the digestive disturbances caused by the proliferation of this proteolytic bacterium could be arrested without injury to the mucosa by favoring the cultivation of the powerful mixed ferments, substituting for the harmful microbian vegetation another, more innocent one. This can be done by modifying the chemical constitution of the medium and by inducing the reappearance of the normal bacterial flora. The chemical composition of the medium can be modified by having nothing pass into the intestines but carbohydrates, with the smallest possible proportion of proteid substances. Sugars, starches, and fats should abound, and the albuminoids should be entirely suppressed or substituted by merely enough proteids to sustain life. The simplest way to insure that the flora consists exclusively of mixed proteolytic ferments is to have the patient ingest pure cultures of these species, merely refraining from giving one that induces the formation of gas, indol, phenol, or an irritating acid. The one to be preferred must grow in a medium without oxygen, and must generate more acid than the harmful variety. Among the species which fulfill these conditions the *bacillus bifidus* and the *bacillus acidiparalactici* take the lead. The latter was selected for the purpose, as it is an anaërobe very easy of cultivaion. It proliferates readily in the human intestine, and favors the reappearance of the *bacillus bifidus.* This method of treatment consequently aims to transform the flora of the intestine and abandons the vain attempt to realize antisepsis in the intestines. The first step is to modify the food. If the bottle is used, pure cows' milk is stopped for a time, and glucose, saccharose, lactose, starch, or other carbohydrates are given instead. At the end of a few days a small amount of maternalized or peptonized milk is added to the diet. When the infant is on a mixed diet, cows' milk is suppressed and its place filled by carbohydrates. When the child is exclusively breast fed, the mother must aim to modify her milk by living on vegetables and by increasing the amounts of fats and sugars taken. Before each meal the child should be given a tablespoonful of a 10 per cent. solution of lactose. By these means the chemical composition of the medium is modified. The second indication is met by giving the infant one or two teaspoonfuls a day of a pure culture of *bacillus acidiparalactici,* which has been kept in the incubator for five or six days at a temperature of 37° C. (98.5° F.). Gradually all the symptoms subside, and the reappearance of the normal intestinal flora indicates the complete cure.

This variety of intestinal infection can be differentiated by its protracted course of one or two months, by the appearance of the stools which are a greenish-yellow fluid, holding fine grayish-green lumps in suspension, and foamy from the gas emitted with them. The stools turn olive-green on exposure to the air. The children act sick, lose appetite, and the usual measures, calomel, etc., have no influence on the condition. The younger the child the severer the symptoms, as a rule. Bacteriologic examination of the stools enables an early diagnosis. The microscope shows that the *bacillus bifidus* is absent, while half a dozen or more abnormal species can be detected. They are all of the peptolytic ferment type, except the *bacillus perfringens.*

This treatment has been tried also by other physicians, and all confirm its absolute harmlessness and complete success. Prompt bacteriologic differentiation is important, as inappropriate treatment may prolong and aggravate the affection. A change from breast milk to cows' milk is liable to transform a generally benign affection into a fatal illness. In one of the author's cases the parents insisted on giving calomel. Immediately afterward the symptoms that had been nearly conquered reappeared in their former intensity, and the *bacillus bifidus,* which had made its appearance again in the stools, vanished anew. The mother of a healthy nursling gave the breast to one of the sick children, with the result that in a week her own child developed the same symptoms. H. Tissier (Annales de l'Institut. Pasteur, vol. xix, No. 5; Journal of the American Medical Association, July 22, 1905).

INTESTINAL EXCLUSIONS.

The writer presents the results of a series of experiments upon animals on the various methods of excluding portions of intestine from the tract, with a view of finding the best means of dealing with diseased intestinal segments. When the radical cure of an intestinal tumor is out of the question, the patient should not be ruthlessly abandoned to his fate, for his life may be prolonged and his sufferings relieved by an operation. This may be an artificial anus, or an intestinal anastomosis, or an intestinal exclusion. The palliative operation of artificial anus results in a most uncomfortable condition; for in spite of the many devices now at hand, proper retention of fæcal matter and gases cannot be secured. Anastomosis alone does not offer security against the entrance of fæces into the diseased portion of gut. Intestinal exclusion, however, overcomes the disadvantages of both these methods. Closed exclusion is to be rejected in favor of the open method, according to almost universal agreement among modern surgeons. Open excision with a fistula in the abdominal wall does not offer any danger and presents but few inconveniences. Still better is a method worked out by the writer in two of his experiments: It consists of the exclusion of a loop of intestine by the open method and the implantation of the excluded gut into a portion of normal gut. After median laparotomy, a loop of small intestine is isolated by circular cuts 8 centimeters apart; the terminal openings are united by anastomosis with double rows of sutures. The upper end of the isolated gut is now closed and a longitudinal incision about 5 centimeters in length is made in the efferent gut, underneath the anastomosis. Into this the isolated gut is implanted by the lateral method with its lower end. In this manner the secretion of the isolated gut is poured into the efferent intestine below the anastomosis. The author regards this method of intestinal exclusion as superior to all other palliative operations on the intestine. Pasquale Longo (Riforma Medica, July 22, 1905; New York Medical Journal and Philadelphia Medical Journal, September 9 1905).

INTESTINAL OBSTRUCTION.

The symptoms and signs of obstruction should enable the physician to diagnosticate the condition even before fæcal vomiting, but positively when this occurs. These signs and symptoms are vomiting, abdominal pain, localized tenderness, in some cases tumefaction; distention, which occurs in ascending direction, following coils of intestine; sharp line of demarcation between tympanitic and dull areas; rectal tenesmus and mucous or bloody stools in intussusception; absence of rigidity of right rectus muscle; inability to secure movement of bowels; all symptoms aggravated by cathartics or enemata—in fact, by anything which increases or excites peristalsis. In very thin abdominal walls the peristaltic movement may be followed to the point of obstruction.

The diagnosis of obstruction being made, operation should be performed at once. Intussusception operation is safer than is any attempt to reduce by injection of fluid or air, hence no attempt at either should be made. In obstruction due to adhesions, every precaution must be taken to avoid overlooking some point of adhesion distant from the apparent main point. No operation can be considered complete which leaves the intestines distended, hence in volvulus of sigmoid or in any other form in which there may be found serious difficulty of maintaining the correction of the obstruction, it may be wise to perform a colostomy or an enterostomy.

In cases in which the patient is in a state of collapse when operation is undertaken, it may be a life-saving measure to perform a colostomy or an enterostomy at once, and later, when patient shall have recovered sufficiently, the abdomen may be reopened, the cause of obstruction removed, and the artificial anus closed. Operation for relief of intestinal obstruction performed early is of small mortality; performed late it has a very high mortality, hence the rule should be to operate early. The smallest possible incision should be used, for the reason that the distended bowel will cause less trouble, the shock will be less, the dangers of intestinal paralysis will be reduced, and the time of operation minimized. However, no cramping by too small an incision should be entertained. Cathartics and enemas should not be used in any case after diagnosis of obstruction is clear or even probable.

In obstruction from a Meckel's diverticulum it should be remembered that the precaution to use ligature before division is necessary unless, as is sometimes the case, it presents as a simple fibrous cord. Even then it is safer to use both the distal and proximal ligature.

In young children a small incision will give free access to much greater area than the same length of incision in older persons. Hence a much greater amount of work can be done in a child's abdomen through a two or three-inch incision than is possible in the adult.

The question of enterostomy or colostomy in acute intestinal obstruction can only be decided upon the individual case. The first object in operation should be in this, as in all other acute conditions, to save life. If the patient be in profound collapse or profound intestinal intoxication, the first duty of the surgeon is to relieve the obstruction in the quickest manner possible. Here colostomy or enterostomy unquestionably are the safest life-saving measures. The patient will not survive a prolonged or careful search for the cause of obstruction.

Between colostomy and enterostomy there must be a choice, based only upon the location of the obstruction. Obviously, an obstruction due to an ileocolic intussusception or an ileo-colic volvulus will not be relieved by a left lumbar or inguinal colostomy; in truth a colostomy will not relieve at all. Relief can only be obtained by such measures as will give vent to the intestinal contents, and here an enterostomy is the only thing. On the other hand, an obstruction in the sigmoid will be completely relieved by a left lumbar colostomy. If the obstruction be due to cancer, this is the best possible service that can be rendered. F. F. Lawrence (Cincinnati Lancet-Clinic, August 12, 1905).

INVAGINATION, ACUTE, IN INFANTS; MEDICAL TREATMENT OF.

The writer calls attention to two stages according to symptoms, the first resembling gastro-enteritis, and the second the classic symptoms of this condition. The importance of melena as a symptom of this condition is insisted upon.

Treatment should first consist in the use of rectal injections, given by passing a soft catheter high into the rectum and allowing saline solution at the temperature of the body to pass slowly into the bowel. The reservoir should not be placed more than three feet above the patient. The solution should be retained for twenty minutes, during which time light massage may be practiced over the abdominal wall. If reduction is accomplished, opiates may be administered to prevent recurrences and only a light diet allowed. If reduction is not effected at the first trial, a second attempt should be made after a short time. Great care must be exercised that the injection is given slowly, as too great pressure suddenly applied may cause rupture of the intestinal walls. If reduction is impossible, operation is indicated. The author states that if this treatment be instituted during the first six hours of the attack, 80 per cent. of the cases will recover. If given later, the results are not so favorable. Louis Netter (Journal des Praticiens, vol. xix, No. 3, 1905; American Medicine, July 29, 1905).

IODINE, ANTI-MICROBIC ACTION OF.

In a solution of iodine, varying from a 0.2 per cent. to a 1 per cent., we have a germicidal agent of very marked potency. Its germicidal power is far superior to that of bichloride of mercury, the acknowledged leader of all other antiseptics. This fact was shown by experiments made with a $^1/_{1000}$ solution of bichloride of mercury on streptococcus pyogenes, using the same method employed with iodine solution. It was found that an exposure of fifteen minutes, although showing considerable inhibitory power, especially on the first day, permitted a good growth of streptococci to appear. An exposure of thirty minutes gave no growth. The superiority of iodine is readily evidenced by recalling the fact that a comparatively weak solution of iodine, *i.e.*, 0.2 per cent., gave death after two minutes' exposure. It approaches nearly to the ideal antiseptic in that it is easily prepared and is stable; it is non-toxic and non-irritating in strength effective, being only one-fourth as toxic as bichloride of mercury; it does not coagulate albumin or form inert compounds with tissues; it is effective in a very brief time; the stain it produces soon disappears; and, lastly and most important, it possesses a remarkable penetrating power. The author states that an 0.5 per cent. solution is amply strong enough for all practical usage. G. C. Kinnaman (Journal of the American Medical Association, September 2, 1905).

IODINE IN SURGERY.

Iodine is the safest and most potent of all known antiseptics. In proper dilution to serve its purpose as an antiseptic, it does not damage the tissues; on the contrary, it acts the part of a useful tissue stimulant, producing an active phagocytosis, a process so desirable in the treatment of acute and chronic inflammatory affections. In the treatment of simple hyperplastic goiter, actinomycosis, and blastomycosis, the local use of iodine is made more effective by cataphoresis. Nicholas Senn (Surgery, Gynæcology, and Obstetrics, July, 1905).

LACERATIONS ON THE CERVIX UTERI.

Many ills are the result of unrepaired lacerations of the cervix. The frequency and extent of these tears may, to a certain extent, be lessened by allowing more time for dilatation in the first stage of labor; by a more judicious use of the forceps in time and force; and by the proper use of podalic version. The most frequent cause of subinvolution of the uterus and prolonged convalescence is unrepaired lacerations. In all probability many of the frequently quoted morbid conditions ascribed to lacerations are the result of infection of the lacerated surface rather than the laceration itself. Many cases of severe hæmorrhage are due to unrecognized cervical lacerations.

Immediate repair in the hands of an able surgeon-obstetrician is the best means of controlling such hæmorrhage, and also of preventing infection of the torn surfaces. Primary tracheloplasty is easily and quickly done, but a secondary repair is a difficult and tedious procedure. In case of failure in obtaining union in the primary operation, the condition of the woman is none the worse, while if successful, which is usually the case with skillful surgeons, the patient is spared many of the ills which lacerations of the cervix sooner or later entail. A. H. Gardner (Medical Record, August 26, 1905).

LEUCOCYTES IN MALIGNANT GROWTHS, BEHAVIOR OF.

An account of observations relating to the peculiar behavior of leucocytes in very early examples of carcinoma in various parts of the human body are given by the authors. The phenomena described appeared to be mainly, if not entirely, restricted to cancer in its earliest stages and did not occur in older growths, in metastases, or in grafts introduced into other individuals. In a rectal carcinoma of the size of a bean it was found that there was a very distinct zone of transition from the normal to the cancerous element round the periphery of the tumor. Immediately within the outer zone the leucocytic crowding was most strikingly apparent, and in a number of cells it was easy to discern the presence of leucocytes which had invaded the epithelial cells, where they stained readily as an inclusion. This phenomenon did not occur in the adjacent healthy tissue nor in inflammations produced artificially. The most important, as well as the most singular, feature lies in the fact that neither the leucocyte nor the invaded tissue cell appeared to be affected injuriously. In many instances it was found that both the leucocyte and the tissue cell were dividing mitotically at the same time. The authors believe that a mixture of the chromosomes derived from the leucocyte and tissue cell, respectively, is distributed between the daughter nuclei resulting from the mitosis. In this way a complete disturbance of the normal chromosome constituents of the cell will be effected and the distribution must be of a qualitative as well as of a quantitative character. What its relation to the ultimate reduction that occurs in neoplastic cells may be is a subject for further investigation. J. B. Farmer, J. E. S. Moore, and C. E. Walker (Lancet, August 8, 1905).

LEUKÆMIA, MIXED-CELL.

Myeloid leukæmia is due to a hyperplasia of myeloid tissue; but the unknown causative agent is irregular in its action, so that any of the various granular types may predominate or a mixed-cell blood picture may result from the reversion of many of the cells to the condition of the non-granular undifferentiated leucoblast or from the hyperplasia of such non-granular cells normally present in the marrow in small numbers. These undifferentiated leucoblasts may assume their embryonic activity and secrete granules.

In leukæmia a mixed-cell blood picture may be due to: (a) a reversion of myeloid cells to the embryonic non-granular type; and (b) a reaction or mechanical disturbance of myeloid tissue owing to lymphoid hyperplasia with, as a result, the passage of myelocytes into the circulation. It is to be understood that it is left quite an open question as to whether or not myeloid and lymphoid tissue may be concomitantly affected in a way similar to what occurs in myeloid and lymphoid leukæmias respectively. If such occurred then we should have a mixed leukæmia in the strict sense. C. H. Browning (Lancet, August 19, 1905).

MIGRAINE AND CANNABIS INDICA.

In migraine the treatment should be directed to first, the neuroarthritic condition; second, the organic or functional trouble present in every case; and, third, the causes which provoke the attacks. The author meets the first indication by an appropriate alimentary regimen, together with the systematic use of cannabis indica and hot douches. Cannabis indica he considers very valuable for the relief of headache. He meets the second by correcting any fault which may exist in the general economy. The provocative causes vary with each individual subject. Among them may be enumerated alimentary troubles, errors of diet, constipation, etc., intoxication, tobacco poisoning, uterine congestion due to menstruation, or other causes. The effect of thermal springs is praised, Vichy in particular being spoken of very highly. G. Carron de la Carriere (Presse Médicale, July 19, 1905; New York Medical Journal and Philadelphia Medical Journal, August 19, 1905).

NASAL CATARRH, TREATMENT OF CHRONIC.

In treating the several forms of chronic nasal catarrh, it is the author's custom to have the patients seated with head erect and the mouth open. The anterior nasal cavity is exposed with a speculum, the tip of the nose elevated, and the sulphur freely and thoroughly blown in with a strong powder blower. This has been properly done when the powder appears from mouth and opposite nostril and an irritative cough results. The treatment should be repeated on the other side. The posterior nasal space and nasopharynx may also be treated directly by way of the floor of the nose or fauces. These procedures should not be entrusted to the patient unless he is unusually attentive to his own case. They should be made two or three times a week for a month, and once a week for the next two months. The local sensations of sulphur are not unpleasant. Occasionally in women it sets up a conjunctival hyperæmia when used too profusely or when accidentally blown on the face, and some women complain of nasal irritation and pain; then it is best to use the treatment but once a week. The cases must be selected carefully, those in which there is no other primary nasal disease, deflection, deformity, or growth must be treated surgically. This method of treatment has proved of value in simple, chronic, hypertrophic, atrophic, and phlegmonous rhinitis, and in simple chronic and hyperplastic nasopharyngitis. L. Koplinski (Medical News, August 12, 1905).

NEPHRITIS, MEDICAL TREATMENT OF.

The writer thinks that recent contributors to the therapy of Bright's disease, including von Noorden and his school, confine their attention too strictly to the kidneys, whereas the disease is a widespread nutritive disturbance involving the organism as a whole with the nephritis as but one manifestation. He urges the necessity of careful examination of the patient in all respects, and the correction of any other functional perversion which may be found to exist in order to eliminate sources of systemic toxæmia. Individualism in the management of this disease is absolutely necessary.

The medical treatment is discussed under the headings of: 1. Nephritis without dropsy. 2. Nephritis with dropsy. 3. Uræmia. Cases of nephritis without dropsy are chiefly examples of chronic interstitial nephritis during the stage of cardiovascular compensation. The main indications in the management of this type of chronic nephritis are protection of the kidneys from irritation, especially the strain imposed by intercurrent acute toxæmias, and secondly, the maintenance of cardiovascular compensation. The first of these two indications is fulfilled by regulation of the patient's diet and personal hygiene. The amount of water to be drunk and the hygiene of the bowels are of particular importance. The management of the cardiovascular compensation becomes essential in the regulation of high blood-pressure. The writer warns against unwarrantable interference with medicinal measures. Diet, hygiene, and free elimination of the bowels accomplish the purpose best. If these fail, and the patient suffers from excessive pulse tension, vasodilator drugs may be administered. The action of the various nitrites, aconite and iodide, for the reduction of blood-pressure is discussed.

In nephritis without œdema, digitalis and other cardiac stimulants are to be withheld, and diuretics are not only unnecessary but harmful. When dropsy is renal in origin, diuretics have next to no influence. Prolonged rest in the recumbent position, restriction of fluid intake, hypochlorization, diaphoresis, colonic irrigation, subcutaneous puncture, and paracentesis are to be employed. If the dropsy is of cardiac origin, cardiac tonics, rest and restriction of fluids are the measures indicated. The value of iron in Bright's disease is also discussed.

In the prophylaxis of uræmia the author lays great stress on the employment of purgatives and enteroclysis with alkaline solutions. The value of blood-pressure observations in anticipating the advent of uræmia dwelt on, and the action of venesection and lumbar puncture in relieving the high tension of uræmia is described.

The writer deprecates the attitude of pessimism toward the prognosis of Bright's disease which is held by so many of the profession. Attention is called to Nature's wonderful powers of adjustment in damaged organic states, nowhere so marvelously displayed as in organic kidney disease, showing that assistance only is needed, seldom interference. The two most important indications in the treatment of chronic nephritis are to protect the patient from intercurrent acute toxæmias and to maintain the compensatory adjustment in the circulation. A. R. Elliott (Medical News, September 2, 1905).

OSSIFICATION OF THE LOWER JAW.

The jaw in its ossification is not so complex as some would have us think, but it is for all that complex, involving (a) Meckel's cartilage at its anterior extremity, (b) the membrane on the outer side of Meckel's cartilage; (3) at least one accessory cartilage which is found in the condyle, neck, and base of the coronoid process of the jaw. These statements apply to each half of the jaw.

In order of sequence, ossification occurs first in the membrane between the mental nerve and the middle line, and extends backward under the mental nerve. Next, ossification commences in Meckel's cartilage about the tenth week of fœtal life in the region of the mental foramen and gradually extends inward. That part of the jaw then between the mental foramen and the symphysis is compound in origin, being partly cartilaginous, partly membranous, not entirely cartilaginous, as Sutten says. Finally, ossification takes place in the accessory mass of cartilage in the condyle neck and root of the coronoid process at the third month.

There are no separate centers in membrane for either the coronoid process or for the angle or the so-called splenial, all these parts being outgrowths, as it were, from the main mass. The inner alveolar border is developed in two parts by ingrowth from the main mass and at two different periods. That part behind the mental foramen appearing first and elongating from before backward; that part in front of the foramen appearing later and growing from behind forward. The canal for the nerves is completed by the growth of spicules from one alveolar border to the other over the top of the nerves, the mental nerve being first so covered, then the incisive, and much later the inferior dental near the permanent inferior dental foramen.

The sockets for the teeth become bony comparatively late, that for the canine appearing first. Meckel's cartilage becomes incorporated in the jaw anteriorly by the development of upper and lower shelves, which gradually close over it; behind the mental foramen these shelves do not meet, and Meckel's cartilage is consequently not included in the jaw, but gradually atrophies. The writer does not think that Meckel's cartilage atrophies to form the internal ligament of the jaw. This ligament at the fourth month can be seen quite distinctly in an ordinary dissection to be independent of Meckel's cartilage. Edward Fawcett (Journal of the American Medical Association, September 2, 1905).

OTITIS MEDIA, TREATMENT OF.

Chronic suppurative otitis media is an infectious condition of the entire auditory tract. It is impossible to disinfect this tract in its entire length simply by means of syringing as ordinarily performed. No cure can be expected unless this tract can be made surgically clean by forcing the antiseptic fluids through from end to end of the entire tract. It is necessary to have a large opening in the drum and a thoroughly dilated condition of the Eustachian tube, both for the purpose of drainage and of efficient cleansing. It is also important to have a continuous current of antiseptic vapor passed through a Eustachian catheter into the Eustachian tube both for cleansing and dilating purposes. It is necessary to treat the parts sufficiently often to maintain as nearly as possible a condition of antisepsis. No treatment can be considered thorough that does not recognize the relation existing between pathologic conditions in the nose and nasopharynx and the ear. J. G. Huizinga (American Medicine, August 19, 1905).

PANOPHTHALMITIS, SYMPATHETIC INFLAMMATION FOLLOWING.

While the occurrence is one of extreme rarity, eyes that present the clinical picture of panophthalmitis may excite sympathetic inflammation. Such eyes, however, usually present microscopic changes analogous to those found in other exciting eyes. With few exceptions, in the cases in literature of sympathetic inflammation following phthisis bulbi, the eyes were of the class described by Fuchs, as atrophied eyes. Usually it is, clinically, the mild form of purulent uveitis which excites. It is only after panophthalmitis of a virulent type that the resultant shrunken globe should be considered harmless.

Where, from the nature of the infection, the panophthalmitis has been of a low grade, or where, as a result of treatment, the inflammation has not assumed a virulent type, the eye should be considered a dangerous one and should be enucleated. In some cases where the purulent panophthalmitis has been considered the exciting cause, the original injury or disease may have been responsible. Whether the histologic findings in most panophthalmitic eyes are to be considered, the terminal stage of the inflammation or the evidence of a mixed infection is still undecided, but the evidence points strongly to the correctness of the latter assumption.

Several factors contribute to render panophthalmitic eyes innoxious. When the globe perforates, many of the microörganisms are extruded along with the pus, those retained within the globe becoming inactive through the enormous pus formation. This active pyogenesis, by blocking the posterior lymph spaces, serves to prevent migration of the toxic agents. Finally, the panophthalmitis may have been excited by organisms probably incapable of inducing sympathetic inflammation, such as staphylococci, streptococci, and pneumococci. William Zentmayer (Journal of the American Medical Association, August 19, 1905).

PERITONITIS, ACUTE: TREATMENT.

The prophylaxis of peritonitis is the portion of the question which is most important to consider and most fruitful in results, according to the writer. If infection and peritonitis have not been prevented, they should be limited as quickly as possible by an operation. Pain in the abdomen results from irritation of the cerebro-spinal nerves in the parietal serosa and subserosa in a chemical, mechanical, or infectious manner, hence a peritonitis may spread over a vast portion of the serosa and seriously affect the wall of the small intestine before it causes local symptoms.

The author classifies peritonitis into the encysted, or peritoneal abscess, and the free forms; the latter being without adhesions. Free peritonitis may spread, however, by acute migrating lymphangitis in the subserosa, and by the movements of the exudation in the peritoneal cavity. The malignity of a given case of peritonitis depends (1) on the etiology and the virulence of the infection, (2) on the portion of the peritoneal cavity which is first infected, (3) on the stage of the disease when the operation is performed.

The two elements in peritonitis which are most to be dreaded, are the passage of microbes and toxins into the blood circulation, and intestinal paralysis. Absorption is increased at the beginning of peritonitis, but it diminishes as the exudation, free or encysted, accumulates. The cause of intestinal paralysis is the poisoning of the wall of the intestine, and the anatomical changes in the lymph spaces and in the ganglion and nerve cells in Auerbach's plexus. The latter lies between the peritoneum and the longitudinal muscular layer of the intestine, and if it is destroyed by the toxins the affected intestines will probably never again be capable of movement. Intestinal paralysis also occurs when the inflammatory process causes engorgement, œdema, and infiltration in its muscle. As soon as the free passage of the contents of the intestine is obstructed, microbes and toxins pass freely through the intestinal wall. Central and peripheral peritonitis should be distinguished between, the former being the more dangerous.

The object of an operation for acute peritonitis is: To remove liquid exudation; to remove the source of the infection by extirpation, resection, sutures, plastic operations, tampons, or drainage; to clean the infected portions of the peritoneal cavity; to empty and drain the intestine when it is paralyzed; to provide for further discharge by drainage, or to separate, by tampon and drainage, the portions of the serosa most affected, from other portions of the peritoneal cavity. The more accurate the local diagnosis, the quicker and safer will be the operation. Lennander (Edinburgh Medical Journal, August, 1905).

PERTUSSIS, LEUCOCYTOSIS IN.

A leucocytosis is usually present in all stages of whooping-cough. As a rule, the number of leucocytes increases with the increased frequency of paroxysms and becomes less as the paroxysms become less frequent and severe. The mononuclear leucocytes are relatively increased in all stages of the disease. This leucocytosis is present in the catarrhal stage, most marked in the active stage, and gradually disappears. In the paroxysmal stage the lymphocytosis was due largely, in the cases reported, to the large lymphocytes. In the catarrhal stage, however, in the one case reported, and in Wanstall's cases, the small mononuclears were in excess. C. G. Grulee and D. B. Phemister (Archives of Pediatrics, August, 1905).

PULMONARY TUBERCULOSIS, EXAMINATION OF THE BLOOD IN.

In pulmonary tuberculosis without cavity formation a mild anæmia, with a decrease in erythrocytes and a relatively greater decrease in hæmoglobin, is constant. From the standpoint of prognosis an increase of the erythrocytes, in cases without cavity formation, is of favorable significance. In advanced cases a decrease of the leucocytes is of unfavorable import. In their investigations, the authors have received the impression that the actual increase of lymphocytes seems to correspond to the increase of resistance on the part of the organism to the tuberculous infection, but further study is required to confirm this deduction. The transitionals seem to follow the same rule as the lymphocytes in this regard. At the beginning of the investigation the eosinophiles seemed to increase with the patient's improvement, but further study did not support this view. J. T. Ullom and F. A. Craig (American Journal of Medical Sciences, September, 1905).

RACHICOCAINIZATION, NEW TECHNIQUE OF.

The writer describes his technique for inducing spinal analgesia with cocaine. Its use is said to confer absolute immunity against after-symptoms, both subjective, as vomiting, headache, and backache, and objective, as elevation of temperature and relaxation of sphincters. Puncture is made in the sarcolumbar space, because it is more convenient, and also because there is less danger of wounding the filaments of the cauda equina. The principal point in the technique is the drawing off of 10 cubic centimeters (2.5 drachm) of cerebrospinal fluid before the 1 to 50 cocaine solution is injected. When the fluid is under such pressure, it spurts from the needle, it is allowed to run until the flow is reduced to drops, then 10 cubic centimeters is measured. The rule may be stated thus: Draw off 10 cubic centimeters after the fluid escapes drop by drop, whether this is from the time of puncture or after a quantity has been discharged. This technique has worked well in 452 cases. M. Le Filliatre (Journal de Medecine de Paris, July 16 and 23, 1905).

SALICYLATES, ACTION OF, ON KIDNEYS.

The writer's experience and research have shown that on administration of salicylic acid in the ordinary moderate doses, signs of irritation appear after a short time and last as long as it is being taken. If salicylic treatment is suspended, these symptoms disappear after a time, but as soon as the drug is given again the signs of irritation reappear. The salicylic nephritis disappears quickly on suspension of the salicylic treatment, leaving no bad results, but when the salicylic acid is continued in small doses, recovery is not complete. Loeb and Knecht arrive at somewhat different conclusions. They noted merely tokens of absolutely insignificant irritation from the salicylates. Knecht suggests that this difference may be due to differences in diet or to climatic causes. The appearance of signs of irritation after use of salicylic acid is observed, however, in various localities, so that it can be attributed only to the drug. It does not seem necessary to lose the benefits of salicylic medication on account of the slight nephritis noted after its use. Large doses should be given without hesitation if the severity of the case demands. All investigations show that salicylic acid leaves no permanent effects on the kidneys. In acute cases indicating the salicylates they are indispensable, but in chronic cases they are of too little value to be continued very long. Quenstedt (Therapie der Gegenwart, vol. xlvi, No. 3; Journal of the American Medical Association, August 5, 1905).

SCOPOLAMINE-MORPHINE AS AN ADJUVANT IN THE ADMINISTRATION OF GENERAL ANÆSTHESIA.

The author administers $^1/_{100}$ grain scopolamine hydrobromide and $^1/_6$ grain morphine hypodermically, half an hour before operating, using ethyl chloride, followed by ether, in small quantity for the general anæsthesia. He states that he can say without reserve that no results have been obtained by any other method which can be compared with those which this method has yielded. The morphine lessens the susceptibility to shock, the scopolamine raises the blood-pressure, and thus aids in preventing shock. The combination of the two drugs is, therefore, valuable from a prophylactic standpoint. The general anæsthetic is taken, after the administration of the scopolamine-morphine, without fear or excitement. Salivation is usually absent. The patient lies quietly after being replaced in bed, and awakens without excitement. The quantity of ether used by the author by this method is a little over two ounces an hour, the Bennett inhaler being used. In 65 cases in which the author had operated there was vomiting or retching on the operating table in only one. In 77 per cent. of the patients there was no vomiting at any time. In one-third of the cases there was one attack of vomiting, but there was only a small quantity of clear mucus, and the attack did not occur in any case in less than two hours after the operation. Seelig (Annals of Surgery, August, 1905).

SPINAL CORD, LOCALIZATION OF THE MOTOR FUNCTION IN THE.

The theories concerning spinal localization, generally accepted to-day, give each muscle and muscle group a definite center, that is, a special collection of ganglion cells, from which all the movements of this muscle are innervated. M. Lapinsky, in Deutsche Zeitschrift für Nervenheilkunde, considers this fundamentally wrong as there are no ganglion cells which do not normally communicate with their neighboring cells, and therefore do not lose their independence as such. He says that the spinal centers govern the individual functions rather than the individual muscles, and bases this statement upon the following facts: It is well known that individual ganglion cells are divided among a number of nerves which supply muscles possessing different functions and situated in different parts of the extremity; also that these nerves have large numbers of ganglion cells supplying them; thus muscles derive their nerve supply from a number of anterior roots, each one supplying not the whole muscle, but only a part of it; the ganglion cells in dividing themselves thus among a number of muscles always go to muscles serving the same function, even though being in different parts of the body, and that muscles, even though deriving their energy from different ganglion cells, get it always from ganglion cells supplying muscles having the same function. The nourishment of the muscles also depending upon the cells of the anterior horns, each center must possess both motor and trophic functions. The existence of such spinal centers for a definite function facilitates the conception of the development of complicated skin reflexes. The fact that after an irritation of the foot all flexors of the leg are brought into action demonstrates that the flexor muscles of the thigh, pelvis, and leg must be connected with one cell group of the anterior horns, and such a group possessing therefore one definite motor function, can exert it either voluntarily or reflexly. The impulses pass to the spinal center, regulating the activity of the muscle needed for the movement. The acceptance of special centers in the spinal cord, each one to regulate a definite muscular accord, facilitates the understanding of how automatic movements are performed and explains the rapidity with which voluntary and reflex co-ordinate movements are performed. It also explains why a muscle in certain conditions will be able to perform some of its functions and not others, and why in muscular atrophy of spinal origin portions of different muscles of different segments only are affected. (New York Medical Journal and Philadelphia Medical Journal, August 12, 1905).

SPLEEN, INDICATIONS FOR REMOVAL OF THE PATHOLOGIC.

The more probable function of the spleen is the manufacture of red blood-corpuscles, with a strong probability of the existence of an internal secretion which is of value in maintaining the proper relative proportion of the elements of the blood.

Splenectomy is contraindicated in leukæmia, amyloid spleen, splenic hypertrophy secondary to cirrhosis of the liver, secondary malignant disease, and in the essential anæmias. Splenectomy is usually preferable to splenopexy in wandering spleen, which is almost always due to previous hypertrophy. In abscess of the spleen, if drainage can be successfully accomplished, it is preferable to splenectomy, especially if the splenic tissue is not destroyed.

In cysts, benign tumors, tuberculosis, and sarcoma, splenectomy is the operation of choice, unless in the three former conditions resection of the lower extremity will remove all of the disease. In rupture, the organ should usually be removed. The operation should be done promptly, expeditiously, and with every expedient calculated to relieve and to prevent shock. In the severe type of malarial spleen, with failure of any relief of the malaria or the extreme splenic enlargement by medical means, splenectomy will often result in cure.

In splenic anæmia, internal medication has proven futile. The only treatment that should be considered is splenectomy, which should be done at as early a period as possible while the patient is able to withstand the operation and before incurable complications have arisen. B. B. Davis (Journal of the American Medical Association, September 2, 1905).

STOMACH, ULCER AND CANCER OF THE.

The very great majority of ulcers of the stomach are located at the pyloric end. The immediate pylorus comes first, the lesser curvature second. A small per cent. is found elsewhere, few at the cardia. The great per cent. of cancers of the stomach is found at the pylorus and lesser curvature (pyloric end), that is, the same locations find the greatest number of each. Quite a per cent. (50 to 60) of patients suffering from carcinoma give three or more years of precancerous history. A growing per cent. of cancer cases is found with short histories and ulcer demonstrated as the earlier lesion. A certain per cent., if small, of short ulcer histories lead to acute pyloric obstruction where the ulcer must have been present for quite a period, and latent. Ulcers may be present for an indefinite period and no symptoms follow until obstruction, perforation, and hæmorrhage appear, if the acidity is low or absent and the ulcer locates itself along the lesser curvature or near the pylorus. Cancers may develop under the same gastric conditions and only manifest themselves when obstruction or systemic poisoning makes itself felt. Christopher Graham (Boston Medical and Surgical Journal, August 31, 1905).

SWEATING FEET, TREATMENT OF.

The author's remarks apply especially to military service. The feet should not be bathed, as this softens the skin and undoes the effect of the treatment. This consists in first rubbing off the feet with a 1 per cent. alcoholic solution of salicylic acid, and then dusting them with a powder containing formalin and the "fat powder" recently introduced into dermatologic practice. The feet and socks are dusted with the powder twice a day, and the skin soon dries and hardens. Insoles are not advisable. Fischer (Münchener medizinische Wochenschrift, Bd. lii, Nu. 20; Journal of the American Medical Association, July 22, 1905).

SYPHILIS, PROGNOSIS OF.

The writer asserts that the virus of syphilis is always of the same potency, and the poisonous dose is practically the same, whether it is derived from a severe or mild case of syphilis, or whether the initial sore is a large one or a small one. Therefore the prognosis of syphilis depends on the susceptibility of the individual infected and on the thoroughness and intelligence with which the treatment is conducted. The location of the primary sore is of no prognostic consequence, although some have held that extragenital syphilis runs a more virulent course than the usual genital variety. Certain individuals undoubtedly enjoy a natural immunity. Severe cases of infection are due not so much to special susceptibility to the infecting virus as to reduced resistance, the disease running as a rule a severe course in people suffering from tuberculosis, diabetes, Bright's disease, gout, rheumatism, etc. The disease is, in most cases, curable in about two or three years. R. W. Taylor (Medical News, September 2, 1905).

TABES, PRINCIPLES OF PHYSICAL RE-EDUCATION IN.

The writer's method of re-educating the muscular system in tabes has been widely adopted and has accomplished wonders in many cases. The prognosis of uncomplicated lumbar ataxia is rendered grave by the rapidly progressive atony of the abdominal musculature and intestines and the severe cystitis from the lack of active exercise of the parts. These serious complications are becoming rarer and rarer now, as also the paraplegic stages of tabes, owing to the advice to exercise the muscles instead of to rest them. Massage of the muscles is not beneficial, as he had at first supposed, and he now warns explicitly against it. The correct application of the "exercise therapy" requires a knowledge of the normal processes of movement in the parts. Its incorrect application is liable to do harm. The author gives a comprehensive picture of the physiologic co-ordinated movements, and describes the technique of examining for disturbances in co-ordination and for their various kinds and degrees. The musculature in tabes is characterized by what he calls hypotony. The capacity for co-ordinated movements is primarily acquired by practice, and thus can be reacquired when lost. The pulse is apt to be increased by the exercise, even when it lasts only two or three minutes. It should be normal again before attempting another exercise. Another point to be borne in mind is the lack of the sensation of fatigue. The writer had a patient who could hold his arms stretched out horizontally for twenty-two minutes without fatigue, notwithstanding that his arms were so much affected by the tabes that he could hardly feed himself. This lack of the sensation of fatigue imposes extra care on the physician, as he must be the judge of the proper duration of the exercise. As a rule, twice a day and not longer than from five to fifteen minutes at a time, and in the severer cases not longer than two or three minutes, should be the limit. Improvement follows in every case, but the amount depends on the length of treatment rather than on the degree of inco-ordination. Several months are generally necessary or else the patient falls back into his old habits. Even the severest cases, if uncomplicated, give a good prognosis with persevering treatment. Some of his patients, with complete loss of the power of standing or walking, had these faculties entirely restored after six to twelve months of treatment. Extreme hypotony may require orthopædic apparatus. The worst prognosis is afforded by cases complicated by attacks of protracted pain or by gastric or intestinal crises. Total blindness was always hopeless in the author's experience until recently, but within the last few years he has modified his technique to adapt it to these cases, with surprisingly favorable results. H. S. Frenkel (Berliner klinische Wochenschrift, Bd. xlii, Nu. 23; Journal of the American Medical Association, July 22, 1905).

THYROID GLAND, IRON PIGMENT IN THE.

On several occasions the presence of pigment, giving the free iron reaction, in the thyroid gland, has been noticed by the authors. They summarize their findings as follows: In cases of the various diseases of the blood and in animals injected with phenylhydrazin, they have found pigment in the thyroid gland. The greater part of this pigment gives the free iron reaction. The pigment is most commonly found in connective tissue cells between the vesicles. It is also present, in small scattered areas, in the epithelium lining the vesicles and may be found in cells lying free among the colloid material. It is most abundant in the more cellular parts of the thyroid where the colloid vesicles are small. G. L. Gulland and A. Goodall (Lancet, August 19, 1905).

TUBERCULOSIS, PULMONARY.

The author has studied 500 miscellaneous cases of pulmonary tuberculosis, gathered from hospital, sanatorium, and private practice, in order to throw light on certain specific questions. Four lines of investigation were pursued: 1. How pulmonary tuberculosis begins — the symptoms of its very first inception—analysis of 100 cases. 2. Analysis of 55 "cured cases" of phthisis. 3. Results in cases examined for admission to the Adirondack Cottage Sanatorium, or the Annex of the Liberty Sanatorium, as illustrating the possibilities of prognosis. 4. Cases showing the average length of life of the poor after the inception of tuberculosis—patients living under such hygienic conditions as are possible for them in a great city.

The conclusions to be drawn from the author's study are that the chief initial symptoms of tuberculosis are (a) cough in 58 per cent. of all cases (without expectoration, 14 per cent.; with expectoration, 42 per cent.); (b) hæmoptysis in 24 per cent. of all cases, and (c) fever, night sweats, or chills in 10 per cent. In this connection it is to be further noted that the vast majority of patients who apparently develop tuberculosis after thirty years of age are in reality suffering from a second attack. Tubercle bacilli appear in the sputum about three months and one-third after the actual beginning of the disease as determined by the case histories and records of the physi-examinations. In regard to the length of life among the poor after the beginning of pulmonary tuberculosis, the author divides his cases into two great classes with the following results: 1. Chronic pulmonary tuberculosis, 128 cases; average duration of the disease, one year, two months, and three days. 2. Acute pulmonary tuberculosis, 112 cases; average duration of the disease, two months and four days. These results are not final or of absolute value, but they serve to suggest a line of inquiry helpful for future investigation, and serve to show that the average time the poor are able to resist the fatal issue of the disease, with no advantages of care, rest, or good food, is a little under two years. H. P. Loomis (Medical Record, July 29, 1905).

TUBERCULOUS PERITONITIS, RECURRENT, AFTER INCOMPLETE OPERATION.

As the result of personal experience and a study of the literature of the subject, the author reaches the following conclusions: Until we have more precise methods of differentiation, most cases of tuberculous peritonitis will be operated on under some other diagnosis. Cœliotomy and removal of the primary focus of the disease offer the best prospect of cure. The abdomen should be thoroughly irrigated and closed without drainage. A short course of x-ray treatment immediately following operation is advisable in all cases, but it is especially important in those cases in which the primary focus has not been removed. Should recurrence take place in these cases, a secondary operation—to remove, if possible, the primary focus—is advisable; and this operation should be followed by a course of x-ray treatment. J. B. Shober (New York Medical Journal and Philadelphia Medical Journal, August 5, 1905).

TYPHOID FEVER, BLOOD-PRESSURE IN.

In the forty-one children examined the blood-pressure was always below normal, and likewise in grippe and in tuberculous meningitis, but not in 2 cases of acute osteomyelitis. The pressure was normal or slightly above in acute meningitis, in "meningism," and also in endocarditis, otitis, pneumonia, etc. In typhoid in children the blood-pressure is absolutely and relatively much lower than in adults, although, exceptionally, hypertension may prevail. The blood-pressure has no diagnostic or prognostic importance in typhoid fever in children, but it reveals an impending or present complication. A hæmorrhage is preceded by an unusually high pressure, which also accompanies congestions, especially congestion of the lungs. It may likewise be the precursor of violent delirium or of endocarditis. The blood-pressure is not influenced by gastro-intestinal troubles nor by the development of an abscess nor by an intercurrent infection or aortic lesion. G. Carrière and C. Dancourt (Revue de Medecine, vol. xxiv, Nos. 7 and 8, 1905).

URETERAL STONES, DIAGNOSIS OF.

The writer states that all ureteral stones have their origin in the kidney, with the exception of those which may form around foreign body or an obstruction in the ureter. The migration of a stone through the ureter is always exceedingly painful, and the pain disappears very gradually even after the stone has left the ureter and has passed out through the urethra. A stone which has lodged in the ureter may remain latent indefinitely if it does not entirely occlude the lumen of the ureter. The urinary findings in such cases are not distinctive, neither is localized tenderness or enlargement of the ureter conclusive. Stones at the lower end of the ureter may sometimes be palpated through the vagina or rectum. The x-ray enables one to discover stones in any portion of the ureter, and if a distinct, well-defined shadow is found in the course of this duct, the diagnosis of stone will usually be correct and a proper basis for an operation for the removal of the stone. A case is described in which such a shadow was repeatedly observed, but no stone could be found in the ureter. Even after the subsequent removal of the kidney the cause of the shadow remained unexplained. The ureter should always be catheterized to determine whether the shadow lies in its course. Harris (Medicine, August, 1905).

URETHRITIS, LOCAL TREATMENT OF.

Chronic urethritis is divided by the writer into three types: In the first, the inflammation is associated with gonococci; in the second, with other micro-organisms; in the third, with no micro-organisms whatever. For the treatment of the first type he employs free lavage of the urethra with a solution of permanganate of potassium, 1 to 5000 or 1 to 6000, and states that the gonococci disappear after from ten to fifteen lavages. In cases of the second type, in a similar manner, solution of the salts of mercury, either of the oxycyanide, 1 to 4000, are used, which are efficient and painless, or of the bichloride, 1 to 20,000 or 1 to 30,000, which is more irritating, but more effective in some cases. In cases belonging to the third degree, a 1 to 4000 solution of nitrate of silver, or a 1 to 2000 solution of salicylic acid is employed. Paul Lebreton (Presse Médicale, July 8, 1905; New York Medical Journal and Philadelphia Medical Journal, August 12, 1905).

URINARY TRACT, EARLY DIAGNOSIS OF SURGICAL DISEASES OF THE.

Localized pain, altered function, hæmaturia, with or without pus—these are the cardinal symptoms of surgical disease in the urinary tract. Tumor, tenderness and residual urine do not require complicated apparatus for their recognition, and their presence or absence can be determined by any physician who will take the trouble to examine his patients properly. These preliminary points are simple, sufficient for a correct diagnosis sometimes, and always trustworthy in indicating the urinary tract as a source of trouble. Nothing in surgery requires more concentrated attention, more accurate observation, or a finer technique, than a complete and correct pre-operative diagnosis of the more obscure conditions in the urinary tract which stand between our patients and health. Benjamin Tenney (Journal of the American Medical Association, August 19, 1905).

VULVA, EPITHELIOMA OF THE.

Malignant growths of the external genitalia in women are rare. Carcinoma of the vulva occurs in approximately 0.22 per cent. of gynæcological patients, and in 5.66 per cent. of patients suffering from carcinoma of the genital apparatus. In a series of 135 cases, the records of which were carefully examined, the age of the youngest patient was twenty years. The greatest frequency is between the ages of 61 and 70 years.

Mechanical injuries to the external genitalis are generally quoted as among the principal causes of carcinoma vulvæ. Their etiological relation to this disease, however, is by no means generally evident. On the other hand, long-continued irritation, as, for instance, that caused by a pruritus, undoubtedly has often to do with malignant growths of the vulva. Leucoplakia also has often been noted as a precursor of epithelioma vulvæ.

The disease usually begins on the labium majus, and is seen more commonly on the right side. There are two types of the disease—vegetating and infiltrating—which may co-exist. There are four histological classes: scirrhous and medullary carcinoma, cancroid, and melanocarcinoma. The most common symptom is itching. When ulceration has taken place there is usually pain, more or less foul discharge, and some bleeding. Occasionally there are profuse hæmorrhages. Intractable insomnia often results from the itching and pain. Dysuria is not very common. Four stages are described by Maurel: (a) The pretumoral stage, characterized by an intolerable pruritus. (b) The second stage, in which a tumor with infiltration is present. (c) The period of ulceration, usually with speedy involvement of the inguinal glands. (d) In the final stage ulceration becomes more rapid. Occasionally metastases occurs in the other viscera, and the patient dies of exhaustion. The average duration without operation is about two years after the discovery of the tumor; not a few cases, however, last much longer.

When the diagnosis is doubtful, the microscopic examination will prove conclusive. Rapid growth, with cachexia and implication of the inguinal glands, is very suggestive.

The prognosis is bad. Return—so far as at present known—is almost inevitable. No case is on record in which the patient remained free from a recurrence for over six years.

The best treatment consists in early excision of the vulva, with extensive dissection of the inguinal glands on both sides. The x-rays are of little value in these cases. Occasionally they may alleviate pain and inhibit the external growth, but they exert no influence upon the deeper extensions. In non-operable cases the treatment is similar to that employed for extensive carcinomatous growths elsewhere. Howard Dittrick (American Journal of Medical Sciences, August, 1905).

Books and Monographs Received.

The editor begs to acknowledge with thanks the receipt of the following books and monographs:—

"Color-Vision and Color-Blindness." A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. Second Edition. Thoroughly Revised, with Illustrations. 132 Pages, Crown Octavo. F. A. Davis Company, Publishers, Philadelphia.——"Annual Report of the Office of Experiment Stations for the Year ended June 30, 1904." United States Department of Agriculture, Washington, D. C., 1905.——"A Note on the Condition of the Tendo-achillis Jerk in Diphtheria." By J. D. Rolleston, London, Eng., 1905.——"Asthma." By John North, Toledo, O., 1901.——"The Treatment of Acute Mania. With a Review of One Hundred and Eight Recoveries." By Amos J. Givens, Stamford, Conn.——"Diseases of Children Occasioned by Affections of the Nose. The Necessity for Recognition and Treatment." By L. J. Lautenbach, Philadelphia, 1904.——"The Doctor's Fee—Is It Fixed and Definite?" By L. J. Lautenbach, Philadelphia, 1902.——"A Few Thoughts as to the Cause and Cure of Catarrhal Deafness." By L. J. Lautenbach, Philadelphia, 1905.——"De l'Organisation de l'Inspection Médicale Scolaire dans les Villes et les Campagnes." V. Desguin, E. Dewez, et Dupureux, Bruxelles, 1905.——"La Fondation Ophtalmologique Adolphe de Rothschild." Par Le Docteur A. Trousseau, Paris, 1905. "Vorhippokratische Medizin Westasiens, Aegyptens under der Mediterranen Vorarier." Von Baron Dr. Oefele, Bad Neuenahr, 1901.——"Forest Preservation and National Prosperity." United States Department of Agriculture, Washington, D. C., 1905.——"The Red Gum." By A. K. Chittenden. With "A Discussion of the Mechanical Properties of Red Gum Wood." By W. Kendrick Hatt. United States Department of Agriculture, Washington, D. C., 1905.——"The Maple Sugar Industry." By W. F. Fox and W. F. Hubbard. With "A Discussion of the Adulterations of Maple Products." By H. W. Wiley. United States Department of Agriculture, Washington, D. C., 1905.——"Experiments in the Culture of Sugar Cane and Its Manufacture Into Table Syrup. A Report on the Investigations Conducted at Waycross and Cairo, Ga., in 1903 and 1904." By H. W. Wiley. United States Department of Agriculture, Washington, D. C., 1905.——"Index-Catalogue of the Library of the Surgeon-General's Offiice, United States Army." Second Series. Vol. X, 1905.——"Diseases of the Skin." By George Thomas Jackson. Fifth Edition. Lea Brothers & Co., New York and Philadelphia, 1905.——"The Circumstances and Treatment of Bright's Disease." By Alfred C. Croftan, Chicago, Ill., 1905.——"The Mathematics of the Diabetic Diet." By Alfred C. Croftan, Chicago, Ill., 1904.——"The Treatment of Yellow Fever." By

Lucien F. Salomon, New Orleans, La., 1905.——"Development of the Pharmaceutical Still." By John Uri Lloyd, Cincinnati, O., 1905.——"The Clinical Significance of Enlargement of the Liver in Diphtheria." By J. D. Rolleston, London, Eng., 1904.——"Cleft Palate and Harelip." By W. Arbuthnot Lane, London, Eng., 1905.——"The Therapeutics of the Iron Compound." By C. D. F. Phillips, 1904.——"Dermatitis Seborrhoica and Its Relations to Alopecia and Other Conditions." By L. Duncan Bulkley, New York, 1905.——"The Immunity Unit for Standardizing Diphtheria Antitoxin" (Based on Ehrlich's Normal Serum). By M. J. Rosenau, Public Health and Marine Hospital Service of the United States, Washington, D. C., 1905.——"Forest Planting and Farm Management." By George L. Clothier, United States Department of Agriculture, Washington, D. C., 1905.——"School Gardens." By B. T. Galloway, United States Department of Agriculture, Washington, D. C., 1905.——"Some Miscellaneous Results of the Work of the Bureau of Entomology." VIII. United States Department of Agriculture, Washington, D. C., 1905.—"Experiment Station Work." XXX. United States Department of Agriculture, Washington, D. C., 1905.—"The Cottony Maple Scale." By J. G. Sanders, United States Department of Agriculture, Washington, D. C., 1905.

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DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

THE DISCOVERY OF SURGICAL ANÆSTHESIA.

Dr. Long's friends do not by any means claim that he was the originator of anæsthesia, or as it was known before this new-coined name came into the profession "the possibility of putting patients into a trance," "a deep terrible dream, by the inhalation of a vapor," or as more latterly it was defined, "loss of sensation produced by some drug."

As I understand the history of anæsthesia, or the use of anæsthesia, it is this: Insensibility or indifference to pain was first produced by Indian hemp (cannabis indica), either inhaled or taken into the stomach. Fifteen hundred years ago, at least fourteen hundred years before Sir Humphrey Davy, to whom Dr. Eberhardt ascribes the honor of being the originator of modern anæsthesia, commenced his scientific experiments, the Chinese used hemp for the purpose of annulling pain. Mandragora was used by the Romans and Greeks in the form of a vapor applied to the nose for similar purposes. In England, three hundred years before the time of Davy, Bullion wrote of the possibility of putting patients to sleep, to be cut for stone, under a combination, mandragora, opium, etc., in shape of vapor, to be applied to the nose. This idea soon became obsolete.

About this time, John Baptista Portia, an Italian, speaks of "a quintessence, extracted from medicines by a somniferous process and kept in leaden vessels, perfectly closed, lest the aura should escape." When it was used, "the cover being removed, it is applied to the nostrils of the patient, who is instructed to draw a long breath till he plunges into a profound sleep; at times it requires great effort to wake him." He writes: "These things are plain to the skillful physician, but unintelligible to the wicked."

In 1800 Sir Humphrey Davy suggested nitrous oxide or "laughing gas" as an anæsthesic. But Dr. Pearson, in 1795, used the vapor of sulphuric ether to relieve spasmodic affections of respiration, thereby indirectly relieving pain.

The mere fact that ether could produce insensibility was shown by several American physicians—Goodwin, in 1822; Mitchell, in 1832; Jackson, in 1833; Wood and Bache, in 1838. But it was first used by Dr. Crawford W. Long, of Georgia, to prevent pain in a surgical operation performed on a Mr. Venable in the extraction of a tumor during the month of October, 1842. Next by Dr. Morton, a dentist, in Boston, in 1846. News of the success in the use of ether, as an anæstic, soon reached Europe, and Mr. Lister, an eminent surgeon of England, and a Mr. Robson, a dentist, at once operated on patients, rendered insensible by the inhalation of sulphuric ether. Within about one year from this time, Sir Edward Y. Simpson, of Edinburgh, began to use chloroform for the same purpose.

At the time of Dr. Long's first practical application of sulphuric ether, in 1842, for anæsthetic purposes in surgery, he was a young man, having practiced medicine only two or three years. He was diffident, and as all medical gentlemen of his day were, he was averse to public notoriety of any sort whatever. He felt it beneath the dignity of a Southern gentleman to parade his name in the newspapers of the day. Especially did a Southern practitioner of medicine feel that there was an odium attached to his name in any such connection. Well do I remember how averse Dr. Long was to having his discovery published. His first public notice of this discovery was published in the Southern Medical and Surgical Journal in 1849, at the earnest and most persistent solicitation of Dr. L. A. Dugas, the editor, and Dr. Paul F. Eve, professor of surgery in the Medical College of Georgia. He wanted no publicity in the matter, saying as a Christian gentleman, "My only wish about it is to be regarded as a benefactor to my race." I was a student in the college at the time (November, 1848), and it is with pleasure I can give an extract, verbatim, from Dr. Eve's speech, as he introduced to a class a tall, diffident, young country doctor. Dr. Eve said:—

"Our guest to-day comes unheralded. No great honors are heaped upon his head. He is a plain, practical doctor. He comes, however, well equipped for the duties of his profession. He is learned, painstaking, observant. He has already mastered a scientific solution, that when properly learned, will entirely revolutionize the field of surgery. I introduce to you, young gentlemen, Dr. Crawford W. Long, whom posterity will honor as the very first man to apply practical anæsthesia to surgical operations. I may not live long enough to see the time, but young gentlemen under the sound of my voice will see Dr. Long crowned as the greatest benefactor of suffering humanity. To him will be erected a monument in the grateful hearts of mankind all over the world, more enduring than brass, and lasting than marble."

This extract bears date November, 1848, fifty years ago. To-day I remember the incident as though it had happened only yesterday.

During the session of the United States Congress of 1854, Hon. Junius Hillyer, member from Georgia, not only introduced, but successfully carried through almost unanimously, a resolution recognizing the claims of Dr. Long as the originator of anæsthesia in surgery. But, owing to too great a sectional feeling, the resolution failed to pass the Senate.

In 1859 Dr. Dugas, still editor of the Southern Medical and Surgical Journal, also at the same time professor of surgery in the medical department of the University of Georgia, writes: "We are free to acknowledge that Dr. Long has very clearly established the fact that in 1842 and '43 he had performed several painless surgical operations under the inhalation of ether. Dr. Long's modesty and disinterestedness have concurred to make him satisfied with his own consciousness of merit. ' Nothing would give me more real satisfaction than to see the honor of this discovery fixed upon the brow of Crawford W. Long, a citizen of our own native State."

In an address before the alumni of the University of Georgia, Alexander Hamilton Stephens, speaking of the great men whom this institution at various times had graduated, said of Dr. Long: "It had given to the world Dr. Crawford W. Long, the discoverer of practical anæsthesia applied to surgery, which to-day has alleviated more suffering than anything yet ever discovered. Germany, France, England, and Russia all now acknowledge Dr. Long's claim to the title. Congress had invited each State in the Union to forward the statues of two of its benefactors to be placed in the Art Gallery at Washington. Georgia could not do better than to send those of General Oglethorpe, the founder of the pauper colony of Georgia, and Dr. Crawford W. Long, the discoverer of anæsthesia as applied to surgery."

Immediately after the address of Mr. Stephens above referred to, the physicians of Athens held a meeting and

"*Resolved,* That we earnestly request that the next legislature of Georgia make an appropriation for the purpose of erecting a suitable monument to Dr. Crawford W. Long, as the discoverer of anæsthesia in surgery, to be located on the University grounds."

Hon. Henry W. Grady, of whom all America is proud, a native of Athens, was familiar with the discovery of anæsthesia from its very inception, in a speech once said: "To Dr. Crawford W. Long undoubtedly belongs the honor of giving to the world the priceless boon of anæsthesia in surgery."

The Texas Medical Times says: "Upon the venerable head of Dr. Crawford W. Long let us place a wreath of laurels as a simple but significant token of our love and gratitude for having bestowed upon the world its greatest benefaction."

Dr. J. H. Goss, of Athens, says: "Let every one who has been under the influence of the surgeon's knife, but the sting of which has been relieved by ether, shout 'Long' and loud for the greatest man who ever lived in the Empire State of the South."

Dr. L. G. Hardman, of Commerce, offered to "give $500 to begin a subscription with which to build a monument in honor of Dr. Long, to be placed in the county where Dr. Long first performed a surgical operation under the influence of ether."

The Medical News says: "The leading medical journals, both North and South, have unqualifiedly expressed the opinion that Dr. Crawford W. Long antedated all others in operating upon patients with the use of ether by several years."

Our own Dr. Luther B. Granby, late United States surgeon, wrote "that beyond the possibility of a doubt Dr. Long antedated all others in the use of anæsthesia in surgery."

Dr. Roswell Park, President McKinley's physician, says: "Kindly therefore let me add whatever influence my opinion may carry to the expressions that to Dr. Crawford W. Long undoubtedly belongs the benefit of testimony that he was the first to use anæsthetics in surgery."

The Georgia Medical Association (then known as the Georgia State Medical Society), during its annual session in 1850, unanimously passed the following resolution:—

"*Resolved,* That it is the opinion of this Society that Dr. Crawford W. Long was the first person who used sulphuric ether as an anæsthetic in operations, and as an act of justice to him individually, and to the honor of the profession of our own State, we most earnestly recommend him to present at once his claims to priority in the use of this most important agent to the consideration of the American Medical Association at its next meeting."

The Medical Association of Louisiana unanimously resolved:—

"That we unite with our brethren of Georgia and the whole South in recommending that one of the proposed statues to be erected by the State of Georgia be dedicated to the memory of Dr. Crawford W. Long, whom we regard with pride and admiration, not only as one of the South's most illustrious sons, but one of the greatest benefactors that America has given to the world. His claims for recognition and gratitude of his fellow-men rest upon the benefactions to mankind which are not limited by the boundaries of his State or nation, but as vast as humanity itself.'"

To these, and similar endorsements, fully as strong, I can add at least fifty more from the very best surgeons, physicians, and medical journals, not only of America, but of almost every country in the civilized world. Such, for instance, as Dr. Hugh M. Young, surgeon to Johns Hopkins University; Dr. William L. Rodman, professor of surgery in the Medico-Chirurgical College, of Philadelphia; Dr. W. W. Keen, an author of "American Text-Book of Surgery," and last, but by no means least, the Doctors Gaston, of Atlanta, who say: "From the history of anæsthesia it is evident to the impartial student that the idea of utilizing ether in surgical operations originated in a doctor's mind and not a chemist's. The most fitting way of celebrating the semi-centennial of the discovery of anæsthesia in surgery will be when the name of Dr. C. W. Long receives recognition in some substantial form."

Dr. J. McFadden Gaston, Sr., was for at least a half century a leading surgeon, both of this country and of Brazil. In his own native South the members of his profession entrusted to him many important positions. At one time he was president of the Southern Surgical and Gynæcological Association, vice-president of the American Surgical Association, and author of "Gaston's Operation." He was ranking surgeon at the battle of Manassas, and held an important position throughout the whole civil war. After the suspension of the Confederacy he spent sixteen years in Brazil. Returning home, he was then for many years professor of surgery in the Southern Medical College of Atlanta.

As another instance of the "eternal fitness of things," Dr. J. McFadden Gaston, Jr., to-day occupies both the chairs of surgery and chemistry in the Southern

Medical Training School, a recently established institution, under favorable auspices, in this city. The above remark of "utilization of anæsthesia originated in a doctor's mind, and not a chemist," was made by him several years before the above happy combination of chairs. (R. J. MASSEY, M.D.)

The above communication by Dr. R. J. Massey, Nestor of medicine in Georgia, is a very important historical production. I do not know of any subject upon which I can write a signed editorial more pertinently.

The discovery of surgical anæsthesia has been the subject of criticism and comment for the last decade by a great number of physicians, surgeons, and chemists. It is time that the truth should have been sifted out of error. Attention has been directed to a letter published in the Atlanta News over the signature of Professor Everhardt, a chemist who has given the subject some attention, from the standpoint of the early suggestion of nitrous oxide and sulphuric ether by Sir Humphrey Davy and Michael Faraday. He draws the conclusion that to Sir Humphrey Davy and Michael Faraday belong the achievements of modern surgery, beginning with the use of nitrous oxide and ending with that of sulphuric ether and chloroform. He is surprised that there should be given to Crawford W. Long the credit for the discovery of the surgical anæsthesia obtained from sulphuric ether. In order to properly understand the difference between a bare suggestion of sulphuric ether as a possibility in surgery, and the actual removal of a tumor under anæsthesia, we have only to note that the same reasoning should apply to all of Edison's discoveries and all of the chemical and electro-chemical discoveries of this age. For these two men, Sir Humphrey Davy and Michael Faraday, were the pioneers, without whom chemistry and electro-chemistry would be almost without chart or compass. Surgical anæsthesia would probably be in the same condition. The actual application of chloroform by Simpson and of ether by Long were great achievements regardless of whatever had been suggested as a possibility by Davy or Faraday. The drugs were potential of great good to humanity, but it required skill, courage, and surgical knowledge to apply them. The actual performance of an operation either upon the cadaver or upon lower animals, or upon living human beings, is necessary to establish the claims of priority. It is very probable that if Professor Everhardt should investigate still further back, he would find records of these same drugs in the old Egyptian lore, or in the hoary past he might find inscriptions that he might interpret, in the light of to-day, to have given to Long his idea. This does not really mean anything. There is nothing new under the sun, when viewed in the way Professor Everhardt views this subject. The fact that Dr. Crawford W. Long removed from a man named Venable a tumor and that he had no pain in undergoing this operation, is the great fact that led to the use of ether by Morton and all others who followed Long. There may have been other operations performed under ether in years gone by that we knew nothing of, but we can only go by the historical facts and the dates.

This should be sufficient, and let those who wish investigate the facts for themselves.

JAMES McFADDEN GASTON.*

RICKETS AND THE NERVOUS SYSTEM.

"WHAT is rickets?" parents often query. And is it not one of the ironies of fate that the most common of all infantile diseases should be so little known to educated laymen? But may we blame them? Not without inviting the charge of professional ignorance; for by many medical men rickets is considered still a disease of the osseous system alone, as it was when Glisson described it more than two-and-a-half centuries ago. That it may be recognized long before these gross distortions of bones take place, is often unknown or forgotten; that it may work much injury upon other tissues without producing bow-legs, knock-knees, etc., is again far from common knowledge. At hand is a letter from an able physician in another State, inquiring as to the cause of a baby's large head, stating that the patient has neither rickets nor hydrocephalus, and yet giving a clear account of a case of rickets as one sees it so often in private practice.

To the pediatrist, though it still presents etiologic problems of importance, rickets is a metabolic disorder. The innutrition affects, or is capable of affecting, every structure in the body, not excepting that great liquid tissue, the blood. But if the modern pediatrician were asked: "Upon what tissues does this disease exert its most serious effects?" I think that the reply would be: "Upon those of the nervous system."

It is the purpose of the writer to point out some of the nervous phenomena that are seen in rachitic children, and this at the risk of reciting what is well known by specialists, and should be known by general practitioners.

Such so-called functional nervous affections as laryngismus stridulus, rotary spasm (gyrospasm), nodding spasm, and tetany are almost invariably observed in infants presenting sufficiently well-marked evidence of rickets. More than this, these conditions disappear with the betterment of the patient's nutritive condition.

In an article upon "Functional Enuresis," published nearly a decade ago, the writer called atention to the frequency with which this troublesome disorder presented itself in rickety subjects.

Then how often convulsions are seen in babies suffering from rickets. The infantile nervous system is far more sensitive to external stimuli, far more incoordinate in its response to stimulation than the nervous mechanism of the adult. Nor is the exciting importance of the so-called "reflex disturbances" to be denied. But do gastro-intestinal causes, intestinal worms, adherent prepuces, hypermetropic astigmatism, adenoids, dentition, etc., cause eclampsia neonatorum in otherwise healthy babies? Not as a rule. There is usually some underlying, anterior, or predisposing cause; and most frequently that cause is rickets. "As a predisposing cause of convulsions in infancy, rickets take the first place." (Holt.)

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Nor is this all. It seems to be generally conceded that eclampsia neonatorum may gradually merge into idiopathic epilepsy itself. The so-called convulsive eclamptic or epileptic habit will have then been formed. Only a few years ago, while visiting at Elwyn, Dr. Barr remarked to the writer: "It is astonishing how many of our epileptic adults had eclampsia in infancy." And in a much restricted field of work this has been the repeated observation of the writer. Thus rickets would seem a cause, indirect and remote though it be, of certain cases of epilepsy.

It has seemed to him, too, that this disease of nutrition plays an occasional etiologic rôle in the production of the nervous or neurotic temperament. He does not for an instant disparage the causative importance of nervous heredity, of bodily ills, nor of faulty training; but he is practically convinced that the last two stimulate more efficiently these neurotic outgrowths when they operate upon rachitic soil.

As a cause of "backwardness" rickets must also take a high place. Motor and sensory devlopment may be much delayed in the rickety infant, just as dentition is retarded. But is not the acquirement of speech likewise delayed? It is not unusual for such babies to learn to talk after they are two years old. This thought might be enlarged upon, as in the rickety, hyperplasia of lymph-adenoid tissue is prone to occur. So as a predisposing cause of adenoid growths in the naso-pharynx (so often an etiologic factor in the production of backwardness) rickets may again loom large in the background.

It has been the good fortune of the writer to study five cases of Mongolian imbecility, where the patients were very young. In every case well-marked stigmata of rickets were present. To ascribe to this nutritive disease the production of the mental deficiency is not intended. Enough proof is not at hand. But every one of these infants improved mentally when the proper treatment for rickets was instituted.

In passing, it might be mentioned that in every case of amaurotic family idiocy carefully reported, mention of the existence of rickets has also been made. Of course this statement is not meant to imply a relation of cause and effect.

Certain authorities view rickets as a cause of hydrocephalus, but as this is a moot question, it receives only mention here.

In conclusion let it simply be said that the man who recognizes rickets early, who treats it early by intelligent dietetic and hygienic measures, performs an important service for the individual and the race.

James Herbert McKee.*

THE RELATION WHICH HYPERTROPHY OF THE VARIOUS TONSILS OF WALDEYER'S RING BEARS TO THE ETIOLOGY OF DISEASE.

This ring is composed of masses of lymphoid tissue situated in the pharynx and connected with each other more or less by lymph channels. The constituent parts of the ring are the pharyngeal tonsil; the two faucial tonsils, located on either side between the pillars of the fauces, and the lingual tonsil, lying on the posterior fourth of the tongue on either side of the glosso-epiglottic fold and behind the circumvallate papillæ. Owing to the separation into two lateral halves, which sometimes occurs in the latter, some writers look upon it as double. The same might be said of the pharyngeal tonsil, but for all practical purposes these are single bodies, and may be considered as such.

Besides these various tonsils, there is also situated within each ventricle of the larynx a minute area of adenoid tissue. But as it requires for physiologic purposes the demonstration of the microscope, and has little if any bearing upon the health of the individual, it may logically be left out of the circle of Waldeyer's ring; as also may the small amount of lymphoid tissue which in some instances develops in the middle turbinal region of the nose.

In fœtal life the tonsils rarely advance beyond a rudimentary stage, hence at birth the post-pharynx is usually smooth; the space between the faucial pillars free from glandular enlargement, and the base of the tongue marked only by the normal development of the circumvallate papillæ.

This is the condition usually found, even in cases in which serious hypertrophy of the different tonsils subsequently takes place. The period of development of the pharyngeal and faucial tonsils is between the first and eighth years, while the lingual tonsil rarely manifests itself to a notable degree until near the period of puberty. Still, in rare instances, both the pharyngeal and faucial tonsils are well formed at the period of birth—a sure indication of subsequent hypertrophy.

The tonsils are physiologic structures of a lymphoid character; and when normally developed are essential to the physical well-being of the individual. It is only when they grow to larger than normal size, and the tissues of which they are composed lose their proper balance, that they become a menace to health and demand interference on the part of the physician or surgeon.

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Tonsillar tissue is composed of follicles. Each follicle consists of a collection of lymphoid or adenoid cells packed closely together, containing a central endothelial reticulum and forming a unit. These units are grouped together, being separated from each other by a similar endothelial network, consisting of fine trabeculæ of connective tissue elements, containing plasma and lymphoid cells. In the different tonsils these adenoid follicles are variously massed, and are covered by mucous membrane of squamous or columnar character. In the case of the pharyngeal tonsil, ciliated epithelium partially covers the columnar.

On the free surface the mucous membrane is of a compound nature, equal in density to the surrounding mucosa; but in the sulci and invaginations which are present in a more or less degree in all the tonsils—parts that are less exposed to external irritation—the membrane is much thinner, looser in texture, and possesses less power of resistance.

In certain points, however, while composed in the main of tissues that are histologically alike, the various tonsils differ from each other in structure as well as function.

The PHARYNGEAL tonsil, situated on the posterior and superior wall of the naso-pharynx, consists of adenoid tissue held together by fine trabeculæ of connective filaments. It is frequently glomerate; but sometimes racemose and divided into many segments. When the lymphoid tissue of which it is composed invades the region of the Eustachian tube and the fossa of Rosenmüller, it is called the tubal tonsil, although really only an extension of the pharyngeal. The mucous membrane is usually thin and formed of columnar epithelium, superimposed in part by a layer of cilia. The gland in its developed stage is richly supplied with blood. When normal the size is never large enough to interfere with respiration. Development is accomplished by the eighth or tenth year. Atrophy then commences and is complete by the end of adolescence.

The pharyngeal tonsil differs from the faucial and lingual in being located in a region comparatively free from germ life, the inspired air being filtered of bacteria during its passage through the nasal cavities. The secretions of the numerous glands, of which the tonsil is partially composed, likewise act as a covering to protect against attack from morbific agencies; while the invaginations of mucous membrane, being shallower than those located in the faucial tonsil, are less likely to favor retention and decomposition of any foreign matter that perchance may find a lodgment in the naso-pharynx.

These facts refer to the normal pharyngeal tonsil which pursues its development between the first and the eighth years, and disappears by atrophy during the period of early maturity.

The FAUCIAL tonsils, while coinciding with the pharyngeal in regard to period of development and atrophy, differ from it in several important points. The crypts are wider, deeper, and more numerous. Owing also to the oft-repeated action of the pillars of the fauces they favor both secretion and absorption. The loose reticulum in the deep invaginations readily admits the passage of bacteria into the lymph channels. At the same time there is constant exposure to the passage of bacilli of various forms in the act of deglutition, which does not occur in the case of the pharyngeal tonsil.

The LINGUAL tonsil, composed of a series of rounded elevations or follicles of adenoid tissue, situated on the base of the tongue, rarely develops to any observable degree during child life, being practically absent up to the adolescent period. In it the lacunæ are short and wide-mouthed, and the construction racemose. The mucosa within the crypts being composed of dense, stratified epithelium, there is less likelihood of absorption through its meshes than is the case in the faucial tonsil. Retention of lacunar contents is practically impossible, as the fluids that are so frequently swallowed wash not only the surface, but the crypts likewise.

It is not, however, when the lymphoid masses, located in the pharynx and designated tonsils, are in a normal condition, that they injuriously affect life, but when they are abnormally developed. It is the presence of hypertrophy that assumes the threatening aspect, and from what has already been said, it is manifest that the effects differ directly with the location of that hypertrophy.

1. Although it may be considered an established rule for the pharyngeal tonsil in the child to pass through a course of development and atrophy, yet in a large majority of instances the development is normal, creating neither symptoms nor functional disturbances. In the minority, however, both occur, a sure indication that Nature has passed her legitimate bounds, and that hypertrophy has developed.

Many causes may contribute to this effect. Probably constitutional dyscrasia is entitled to the first place. In syphilitic and tubercular conditions, and in hereditary tendency toward lymphatic development, we have primal factors.

As exciting causes, damp conditions of climate, residence in unhealthy localities, constant breathing of impure or dust-laden air, ill-regulated exercise, poor food, defective clothing, may be considered as the chief.

Even when abnormal enlargement has taken place, the growth being composed simply of hypertrophy of normal tissue, no systemic injury would result but for the obstruction to respiration which its presence induces. In this, the consequences may be very serious, for it converts the nasal breathing, the only natural method, into the oral. In the former the air is heated, saturated, and purified, while passing through the nasal passages, putting it into a fit condition to enter the lungs; while in the latter it is dry and often impure when reaching the pharynx and larynx, and as a result is the cause of many forms of irritative disease.

The presence of an enlarged pharyngeal tonsil has also in many instances a serious effect upon aural respiration, as the pressure of a tubal hypertrophy upon the Eustachian tube not infrequently so closes its lumen that the air cannot pass through to the middle ear.

The result is absorption of the air within the drum, collapse of the drum membrane upon the ossicles, and not infrequently bacterial invasion and suppuration of the middle ear.

As a further result of interference with normal breathing, oxygenation of the blood becomes less perfect and resistance less sustained.

2. In hypertrophy of the faucial tonsils, although the etiology and the period of life are the same as in the development of adenoids, the systemic effects are different. The faucial tonsils possess in much larger degree the power of both secretion and absorption. They admit bacteria freely into their crypts, favoring their passage through the loose connective tissue which separates the follicles into the lymph and venous channels, thus contaminating the blood-supply. They are also exposed open-mouthed to the great army of germ life which passes into the *primæ viæ* during deglutition, a danger that the pharyngeal tonsil escapes. It is possible, too, that the palato-glossal and palato-pharyngeal muscles, which enclose the tonsil, may, during the countless times in which they press upon it, not only aid secretion, but favor absorption as well.

It is during the period of childhood that the faucial tonsils assume their greatest hypertrophy, and it is during that period that exanthematous diseases prevail to the widest extent. The question is, what relation does the one fact bear to the other? Is it not due to the innumerable avenues open to the entrance of bacteria through the soft spongy faucial tonsils? Clinical evidence has proved that children possessing large soft tonsils are not only more frequently attacked by scarlatina, measles, diphtheria, etc., than are children of a similar age whose tonsils are normal, but that the attacks are much more likely to be of a virulent and fatal type in the one than the other. Do not these facts indicate that the child possessing the hypertrophy has more avenues through which the bacilli can enter the system, and, also, that he possesses less power of resistance?

In cases of tonsillar hypertrophy extending into adult life, the constant oral breathing renders the tonsils very susceptible to inflammatory action. In these successive attacks of tonsillitis, the crypts, particularly near the proximal sides, are filled with exfoliated epithelial cells, polynuclear neutrophiles, bacteria, lymphoid cells, and in many cases, fibrin, resulting in a gradual hypertrophy of connective tissue elements with a tightening of the cryptal orifices. Although the condition may be slow in development, it is progressive, leading to the growth of fibrous tissue at the expense of adenoid.

This may be attended by two results. When the successive inflammatory attacks induce final adhesion of the lacunar orifices, and of the outer ends of the cryptal walls, cyst-like cavities are likely to occur in the deeper structures, which may be filled with pathological *débris* and bacteria. When the occlusion is not complete, saprophytic invasion through what remains of the cryptal orifices is likely to result, with decomposition of the lacunar contents.

Hence, in adult life, the permanently enlarged tonsil is likely to present a hard fibrous surface, whose closed crypts, on the one hand, may be distended by cyst-like cavities filled with putrescent matter; or, on the other, possessed of open cavities with narrow outlets, through which are forced by the action of the faucial muscles foul, cheese-like masses undergoing putrefaction. In either case the decomposition process is the result of prolonged retention, and in either case is apt to produce a condition of physical debility.

It is thus an accepted fact that micro-organisms reach the circulatory system through minute blood-vessels and lymphatics, and that one of the principal avenues of entrance is through the crypts of the faucial tonsil. Hence, it is believed that the various bacteria of the exanthemata may enter in this way, as also do the bacillus of Pfeiffer in influenza, and the diplococcus in rheumatism.

It follows that when in early life the tonsils are enormously enlarged, with multiplied and deepened crypts, and widely extended and attenuated mucosa, the dangers of infection are at the highest, and the physician should be fully cognizant of the possible result should he allow such adverse conditions to remain.

3. Hypertrophy of the lingual tonsil differs materially in its effects upon the system from the two already discussed. It usually develops at a period of life in which the pharyngeal and faucial tonsils have not only performed their doubtful functions, but have also passed through their retrograde metamorphosis and disappeared. Quite possibly the presence of a lymphoid cachexia may be an important factor in its development, and it may occur only in individuals who have previously suffered to a more or less degree from adenoid or faucial hypertrophy; nevertheless, its history and the effects upon the physical system are so markedly its own that it is worthy of a separate place in the study of the lymphoid ring.

As said before, the lacunæ in the lingual tonsil, even when developed into a condition of hypertrophy, are so short, so widely open, and so freely washed by the oft-repeated swallowing of fluids, that retention of bacteria and decomposition of substances within the crypts cannot very well occur. So that there seems to be little probability of septic infection occurring from retained excreta.

Hence, the evils which hypertrophy of the lingual tonsil give rise to are chiefly of a local character. They consist of a feeling of swelling at the base of the tongue, the presence of mucus in the throat, the sensation of a foreign body in the glosso-epiglottic notch, and disturbance of the normal voice—the last mentioned being particularly noticeable in the case of singers and speakers.

This category of symptoms and effects, which owe their existence in so large a degree to the presence of hypertrophy in the various segments of the pharyngeal tonsillar ring, clearly indicate the advisability of eliminating, as far as possible, this element in the etiology of disease. While we recognize the fact that these tonsils are in some way necessary to the proper and efficient development of the individual, that they perform some function in the animal economy, no matter how obscure that function may be, we at the same time realize that, when hypertrophied, they introduce an element of danger that distinctly threatens the well-being and sometimes the life of the patient, and that it is our duty to relieve him of the onus of unnecessary risk.

J. Price-Brown,
Toronto.

REMARKS ON THE CONSTITUTIONAL TREATMENT OF RHEUMATIC CONDITIONS.

Much information exists on the systematic care of rheumatic conditions, but each one needs to review this exceedingly diverse data and formulate certain principles of action which shall serve him as practical guides in treatment of problems. Recently a flood of articles has appeared in the journals on this subject, many of them admirable and suggestive. It seems to be definitely determined that the main underlying factor is a derangement in the proteid metabolism.

Inasmuch as many of these sufferers are below par in their general health, the fact which needs to be held before the mind is that rest of body and brain is essential along with abundant yet suitable diet, supplemented by judicious methods of life regulation, until the nutrition of the individual becomes well balanced.

Enough has already been said about the diet, but no fixed rules as to choice of food can be applied indiscriminately. The object to be aimed at is to prevent food items burdening the organism with complicated factors of nutrition from intake to elimination. Simplicity is the object always, though variety from day to day is important to sustain appetite and relish. Special care should be exercised in maintaining the functions of the elaborating glands at the normal, and, above all, the action of the great ductless glands, in order that there shall be the least possible complications in the vasomotor sphere.

In brief, where the system appears to be depleted, full feeding is needed for a time, and this can best be accomplished through the use of vegetable foods, cereals, and especially green things, with a cautious permission of raw fruits, when thoroughly ripe and in season, but when out of season or doubtful, cooked.

As has been suggested, the most important rule is to insist upon extreme care in mastication until the bolus of food shall be reduced to so fine a mass that it can be no longer held in the mouth, but is involuntarily swallowed. Next to avoid swallowing any coarse particles whatsoever. When this is done, as Fletcher has shown us, there will be attained an extraordinary sanity of taste through the exercise of which the individual can safely guide himself in his choice.

Guidance is essential on the part of the physician, much more careful than can be accomplished through mere outlining permissible articles and excluding others. Thorough conferences must be held between the patient and physician so that erroneous tastes shall be modified and wholesome ones encouraged; changes being suggested from time to time consonant with the condition reached.

In the use of red meats, usually forbidden, it may be said that at first, where there is hypo-nutrition, these are useful and should be taken rare, broiled, or roasted, chewing the mass and swallowing only the soluble parts, excluding rigidly the fibrous residue. There is no virtue, in my judgment, in omitting red meats and permitting white, or fowl, or fish. Again, all sweets are usually forbidden, on the assumption that they induce the formation of organic acids. It is more probable, however, that the harmful influence of excess of sweets is due to the excess of carbon dioxide resulting from their combination; analogous to the action of alcohols, though less intense. In my opinion this is usually a matter of indifference, provided the taste has become normal and they be not used to the exclusion of other needed substances. Alcohol, of course, should not be encouraged, nor tea nor coffee.

Recently our attention has been called, especially by Metchnikoff, to the value of lactic acid in neutralizing the putrefactive changes in the lower bowel. This confirms our long recognized preference for the use of buttermilk and the fermented preparation of milk, koumyss, keffir, zoolak, and matzoon. Superior to these is the old-fashioned "bonny clabber" or milk which has turned sour and become clotted. Some experience in the use of this has convinced me that lactic acid possesses a definite value in intestinal digestion.

The aim of all our dietetic regulations for the purpose of overcoming, not only digestive derangements, but metabolic disturbances, is to arrange that just enough food shall be taken for the needs of the economy, and in such form, especially such form, as the patient himself is capable of reducing it by mastication, that no secondary derangement shall follow, for by this means they can nearly all be prevented. This seems a simple matter when sketched out, but demands the utmost care and judgment on the part of the physician until the patient becomes thoroughly educated as to his needs and digestive capacities.

Rest is essential where exhaustion is evident, but this by no means should prevent the employment of healthy exercises, carefully supervised, whereby the balance of circulation shall be attained, the periphery kept compensatorily well supplied with blood, and the lymph channels maintained in their fullest activity. Exercise is absolutely essential in all conditions of acidosis and commensurate with the integrity of the organs.

Inasmuch as the skin in all these cases is peculiarly sensitive, it is essential to encourage every precaution to retain its normal tone. Hence, after active exercise, and equally so after passive exercises, the skin should be cleansed immediately by friction and change of undergarments; therefore, the simple rule of demanding that a patient take exercises two or three times a day and afterward use the precaution indicated of dry rubbing, immediately followed by rest lying down, will secure the best results. Although, curiously enough, some of the most authoritative writers declare that exercises must be passive, as no others are advisable, yet the opinion among the wiser men, especially those who have been themselves sufferers, is that exercises in all normal directions, full active stretchings, and in addition judicious manipulations deliberately employed, are essential to the recovery of systemic tone as well as for local relief and nutritive repair.

A most important discovery, for discovery it is, although it has been alluded to by others, yet no one has given us so clear a notion of the particular item of exhaustion which is found in the degenerative states of acidosis as Dr. Edward C. Kirk. Max Verworn pointed this out in connection with his views on the need of maintaining the normal alkalinity of the blood. Dr. Kirk has shown us that in arthritism there is a rapid phosphatic loss by reason of the continued high acidity. In cases of excessive accumulation of carbonic acid in the blood plasma other epithelial structures beside those of the kidney become affected and are concerned in the chemical reactions which result in the formation and elimination of acid phosphates due to the mass action of carbonic acid upon the basic phosphates. His researches are especially in connection with the acid exudations from the buccal mucous glands and from the skin of arthritics. The high acidity of the urine he regards as the exponent of the high carbonic acid content in the blood plasma, and in the excretions of the kidneys; every degree of increased acidity in the urine representing an equivalent loss of phosphorus. In outline his views may be expressed as follows:—

Imperfect metabolism in arthritics is always attended by imperfect or insufficient oxidation. Imperfect oxidation results in the accumulation within the blood plasma of carbonic acid gas. Carbonic acid gas (CO_2), in the presence of water, becomes carbonic acid (H_2CO_3). Carbonic acid decomposes the physically-alkaline disodium phosphate (Na_2HPO_4) of the blood into the physically-acid monosodium phosphate ($NaHPO_4$), the reaction being $Na_2HPO_4 + H_2CO_3 = NaHPO_4 + NaHCO_3$.

(Chemically both these are acid salts; the sodium acid carbonate is, however, alkaline to test paper.)

The diacid phosphate is eliminated by the kidneys as a normal part of their function, and the sodium acid carbonate or bicarbonate (which is physically-alkaline) is returned to the blood plasma, restoring the latter to its normal degree of alkalinity.

Where, however, through faulty metabolism, carbonic acid is produced in abnormal quantities, as in gouty diatheses, or where the kidneys are incapable of eliminating all the sodium diacid phosphate formed, other glands and epithelial structures, such as the buccal, or even the skin, perform the work of elimination; the buccal glands, for example, yielding an acid exudate in the mouth that slowly erodes the teeth. This erosion is not caused by uric acid, which is also formed in these cases, but by the sodium dihydrogen phosphate resulting from imperfect cellular metabolism, which latter is the predisposing cause of both the erosion and excessive uric acid production.

The dangers to the economy in these chemical changes lie not alone in the production of the acid salt and its erosive action on the teeth, but also in the metabolic conditions that give rise to it. The production of these abnormal end products is an effect and not a cause; their presence in the blood is a danger-signal telling of insufficient or imperfect oxdation of the cellular tissues, and this is a direct result of defective metabolism.

So valuable is this point of view that I have personally found it of saving efficacy in many instances where the degree and quality of depression, mental as well as physical, was profoundly discouraging.

The chief problem is to determine what form of phosphorus is most desirable. Theoretically, the organic product, lecithin, is the ideal tissue food. This is a highly complex fat containing substance in which phosphorus is present in organic combination. It occurs in the yolk of the egg and in brain substance, where it is bound up with neucleo-proteid, but in the isolated form it is proteid free.

Clinicians frequently use the egg yolks as an auxiliary food where hypernutrition is desired, but in many instances it is objectionable as a mere source of lecithin or phosphorus supply because by the use of sufficient number of the yolks of eggs, to get the required amount of phosphorus, there is taken into the organism an excess of other materials, notably the proteids, which place a strain upon the digestion and especially upon that of arthritics which, in cases under discussion, may already be too fully supplied with unelaborated forms of nitrogen.

Certain of the manufacturing chemists have isolated lecithin and placed it in a satisfactory form, and this is definitely the best means known at present for the administration of phosphorus. Then, again, we have the glycero-phosphates, a convenient and excellent form, but not altogether stable unless it be shown that we are getting in any given preparation the acid glycero-phosphates.

It is difficult to make suitable choice among the rival products of the manufacturing houses, but they are becoming improved all the time, and doubtless we shall soon have one or several which will meet all requirements.

The field for the employment of these phosphates is so large that while using them we may safely omit most other forms of tonic medication. Furthermore, in the present doubt respecting the best form of phosphorus supply, it may be well to change a preparation from time to time, and by this means the best results follow in my hands. In any event it seems important to be ever on the watch for those states of depression, especially the mental, which may not be apparent, but which frequently arise in conjunction with the acidoses. My experience leads me to recommend that in chronic conditions of acidosis of long standing phosphorus may be taken with advantage for a week, or possibly two weeks, in the month, for several months or a year.

It is important to allude to one other remedy which promises to be of use in improving tissue oxidation, viz., thyroid medication. Parhon and Papinian (Presse Médicale, 1905, No. 1) have reported the profound relief of chronic rheumatic conditions practically cured, after failure of other measures, by the use of thyroid extract. They quote Lancereaux, Claisse, and others who have reported similar experiences. Functional insufficiency of the thyroid has been shown to be followed by defective elimination. They think that the thyroid gland takes some part in the assimilation of lime; hypo-function provides favorable conditions for the development of chronic rheumatism and certain forms of nephritis. Viala has called attention to the action of thyroid treatment in the stimulation of the circulation, increase in the secretion and elimination of effete matters, reducing weight in proportion to superactivity of the metabolic processes, and the attenuation or disappearance of joint symptoms.

It is evident that we are dealing with complicated, often obscure, conditions of under-oxidation, subkatabolism; hence it is necessary to proceed slowly and be content with a steady uniform gain through a period of months or years.

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Cyclopædia of Current Literature.

ALBUMINURIA AND ADOLESCENTS.

When the albuminuria of adolescents is recognized and treated, there is little likelihood of its proving the precursor of organic disease of the kidneys, even when its duration has been many years. The general treatment resolves itself into so reasonable a regulation of life as to ensure the highest state of vitality during adolescence: *Work*, while it may be ample, must not be excessive; and work is always excessive during the years of growth when sleep is insufficient. The hours of both must be determined according to age. *Exercise* should be recreation rather than physical drill, which, by the pleasurable sensations, increases the tone of the whole nervous and vascular system; and such exercise should be daily. *Food* should be sufficient for the provision of growth, as well as the renewal of wear and tear, bearing in mind that the adolescent requires more food than the adult, and the girl more than the boy, on account of her greater rapidity of growth. *The duties of the scavengers* of the body should be so disciplined as to be brought under the habitual control of the will. Natural action should not be replaced by the perpetual stimulus of aperient for this vicarious duty obviously confirms the intestines in sluggishness of work, and tends to convert a temporary inactivity into a permanent abandonment of function. Clement Dukes (British Medical Journal, October 7, 1905).

ALBUMINURIA AND DIABETES, CONNECTION BETWEEN.

Albuminuria has frequently been observed by the writer in his cases of gouty, herpetic diabetes, while it was never noted in his 40 cases of pancreatic diabetes. The glycosuria alone does not entail albuminuria. When the latter occurs it may be connected with arteriosclerosis with consequent lesions of kidneys and heart, or it may be of epithelial origin due to some intercurrent affection, tuberculosis in particular. There is a third form, in which the albuminuria alternates with the glycosuria, and like the latter, is subordinate to some nervous disorder. The author gives examples of each form, and adds that the physician should examine the condition of the kidneys and nervous system in such a patient, rather than determine the exact proportion of albumin. This will give him a clue both for treatment and for prognosis. There are three groups of circumstances in which this decision is of great value: When parents bring their sons to the consultant with the statement that their physician has told them that the lads are albuminuric and must be kept on a milk diet, and that they must stop their college work. Study of the albuminuria and its accompaniments reveal that it is not due to a kidney lesion, and consequently that these precautions are unnecessary. Time shows that the lads develop spontaneously into good health and their albuminuria vanishes. In other cases life insurance is refused to men apparently in good health, under pretext of albuminuria. The kidneys are sound and the insurance company may be prevailed on to reconsider its objection. Lancereaux (Bulletin de l'Academie de Medecine, Yr. lxix, No. 30; Journal of the American Medical Association, September 23, 1905).

ANGINA PECTORIS.

The writer states that it is customary to divide cases of angina pectoris into organic and functional, or true and false angina; in the true form the lesions generally found are aortitis, syphilitic or otherwise, diseased coronary arteries, myocarditis, fatty degeneration and valvular disease; while under the functional form are included the purely neurosal types met with in women, the reflex forms from abnormal conditions of the stomach and abdomen, toxic forms in women from disease of the thyroid and in men from tobacco, alcohol, or high living. To these may be added Nothnagel's vasomotor type. There is also *angina sine dolore,* where there is no pain, but an indescribable sensation over the heart; this is associated with varying forms of cardiac disease ending in death.

Three elements play an important part in angina pectoris—muscular exertion, mental emotion, and digestive disturbances. Movement of any kind, facing a cold wind, worry, gastro-intestinal disturbances—all increase the liability to præcordial pains. During the paroxysm the face may be either pale or flushed. The pulse varies; it may become quick, small, and hard, or cease to be felt in the radial artery. Usually the sternal pain is severe, but its place may be taken by a slight fainting feeling. Consciousness, however, is seldom lost, except in the final attack, when death comes through syncope. The pain, which may be of a boring or burning character, is most acutely felt at the manubrium sterni and the præcordium whence it may radiate down both arms, usually the left. Just when the pain is almost unbearable it begins to decline, and a cold and unpleasant perspiration breaks out over the forehead and extends to the arms and legs. Occasionally a murmur may be heard over the cardiac area. There may be some dyspnœa and even œdema of the lung. Eructation often follows an attack, and as pain over the stomach often precedes the paroxysm, the stomach is usually regarded as the cause of the trouble by the patient. In pseudo-angina the pain may be extremely severe, but the personal element plays a large part. In most cases no cardiac lesions can be detected. The face is flushed, and there is marked throbbing of the heart and blood-vessels. In vasomotor angina palpitation, præcordial pain, faintness, coldness of the extremities, lividity, and perspiration are the main features. Anything which suddenly induces contraction of the peripheral arteries will bring on an attack. Sexual excess often produces pseudoangina in both men and women. In pseudoangina a good prognosis can usually be given, but in true angina it is always grave—yet in some instances appropriate treatment will give relief, ward off attacks, and prolong life.

Nitrite of amyl stands at the head of all drugs for giving immediate relief; the peripheral arteries are opened up and the strain taken off the heart. When there are signs of a failing heart, digitalis or strychnine must be combined with the nitrites. Where the arteries are in an advanced stage of disease, amyl nitrite has but little effect, and often does harm. Here only morphine will give relief. In all cases of true angina the relatives should be informed of the serious nature of the attacks. T. Oliver (Lancet, September 16, 1905).

ANGINA PECTORIS, ETIOLOGY OF.

From the consideration of the fact that angina pectoris occurs in lesions of great diversity, some condition common to all must be the cause of the symptoms. The fact that angina pectoris appears only after the heart muscle has been long exposed to excessive strain points to the cause being situated in the muscle. All the functions of the muscle fibers save that of contractility can be shown to be intact in many cases that suffer from angina pectoris. The alternating action of the heart is a demonstrable sign of exhausted contractility, and its presence is always associated with symptoms that are included in the symptom complex of angina pectoris. The same exciting cause—extra strain on the heart—may provoke both the angina pectoris and the alternating action and both may disappear with removal of the cause. The inference to be drawn from the consideration of these facts is that the symptoms that are included in the term "angina pectoris" are so closely associated with an impairment of the function of contractility of the muscle fibers of the heart that in all probability angina pectoris will be found to be an evidence of the impairment of the function of contractility. James Mackenzie (British Medical Journal, October 7, 1905).

ANGINA PECTORIS, NEW SYMPTOMS IN.

A case of angina pectoris presenting some hitherto undescribed symptoms is related by the author. The patient was a man of 45, and presented as the first symptom of angina pectoris, pain in the chest and left arm, and breathlessness on exertion. It was found that the arterial pressure was always high, varying from 160 millimeters to 170 millimeters Hg. The pressure was raised during the paroxysm of pain, and the pulsation of the heart was regular and not rapid. The patient complained of constant pain over the back, extending down to the ninth intercostal space, and in front, extending down over the clavicle as far as the eighth intercostal space. It also involved the outer aspect of the left arm and forearm, and in the hand; it was felt in the thumb and in the index and middle fingers. The skin of the chest, back, arm, and forearm, on the left side, was hyperæsthetic to every form of stimulus, while absolute anæsthesia was present in the radial portion of the left hand, with the exception of a small area on the palmar surface, the size of a three-penny piece. The sternomastoid, trapezius, pectoralis, deltoid, and supinator muscles were more tender on the left side than on the right; elsewhere, there were no sensory disturbances. The triceps and supinator jerks were increased on the left side, while the myotatic irritability in the deltoid and in the muscles of the outer aspect of the left arm and forearm were increased. The faradic and galvanic excitability were also increased. The left arm was weaker than the right, the dynamometer registering 50 on the left side and 130 on the right. The circumference of the arm and forearm was less on the left side than on the right. Another interesting symptom was the prominence of the left eye, the pupil of which was larger than that of its fellow. While numbness of the arm has been observed in angina pectoris, the anæsthesia described is unique. The wasting of the muscles, the author believes, to be analogous of the conditions found in arthritic muscular atrophy. G. A. Gibson (Brain, Spring, p. 52, 1905).

APPENDICITIS, URINARY DISTURBANCES IN.

Attention is called by the writer to some of the urinary disturbances which accompany appendicitis and afford one of the most confusing of clinical pictures. The exceptional anatomical position of the appendix may bring it in relation with the bladder behind the pubes, or it may be found low down in the pelvic excavation or the *cul-de-sac* of Douglas. This relation to the bladder may cause a class of functional disturbances without pus formation, such as retention of urine, tenesmus, dysuria, or an acute or subacute cystitis. Suppurative lesions may occur, or there may be a formation of urinary calculi. Swartz reported the case of a young man of twenty years who had three suppurating attacks of appendicitis which terminated in abscess formation which was opened in the umbilical region. Each time besides the ordinary symptoms of appendicitis the patient had violent pain in urinating and frequent micturition. The patient called attention to the similarity in the symptoms that he experienced in the previous attacks of appendicitis. Upon operating the appendix was found in the form of a cord surrounded by indurated omentum extending from the iliac fossa to the abdominal wall, midway between the umbilicus and pubes, in close relation with the bladder. C. G. Cumston (American Journal of Urology, August, 1905).

ARTERIOSCLEROSIS, THREATENING EPISTAXIS IN.

The writer has had opportunity to make careful rhinoscopic examination in 43 cases of threatening epistaxis in arteriosclerotic subjects. It has revealed that the bleeding came from sclerous degeneration of the artery of the nasal septum. This sphenopalatine artery divides generally into several branches and runs a superficial course in the lower part of the septum. The author gives illustrations of the points where the hæmorrhage usually occurs and also where secondary hæmorrhage may be expected. When the hæmorrhage does not yield to the ordinary measures, the application of cotton saturated with hydrogen dioxide is advised. This is left for twenty-four hours or longer in severe cases. When removed the points can be thermocauterized or chromic acid may be applied and the nose tamponed. When the tampon is finally removed the patient must be supervised. He should carry cotton constantly with him in case of a recurrence, and should refrain from blowing his nose. Penghawar is particularly useful for a provisional tampon. Adrenalin should be avoided in arteriosclerosis. If it is impossible to discover the focus, the entire wall of the septum should be cauterized and the passage tamponed with penghawar or cotton. Posterior tamponing should be completely rejected. E. Escat (Presse Médicale, September 9, 1905; Journal of the American Medical Association, October 14, 1905).

ARTERIOSCLEROSIS, HOT BATHS IN.

The systematic employment of hot baths is recommended by the writer as a satisfactory treatment of arteriosclerosis. The effect of the hot bath on the patient suffering from arteriosclerosis is fourfold: 1. It alters the distribution of blood-pressure by unloading the internal organs and by increasing the vascularization of the skin; hence, it affords prompt relief in many of the cases of pain associated with internal gout, that frequent source of arteriosclerosis. 2. It increases combustion. 3. It increases the elimination of waste products. 4. By opening the channels of the skin, it reduces the pressure of the blood by bleeding the patient into the skin. In every instance it is necessary to ascertain exactly the reaction of the individual. One may safely begin with a temperature of 102 degrees if the patient is not above 55 or 60; in women it is safer to begin at 100 degrees. The time of immersion should not be less than ten minutes, although the writer rarely had to exceed that time. The determining factor in the management of the patient is the condition of the left heart, the quality and loudness of the first and second aortic sounds. Without a vigorous left heart the hot bath must be used with caution. The indiscriminate use of the hot bath is warned against when there is not a good systematic pressure and a vigorous systolic output to start with. While these two conditions obtain in arteriosclerosis, favorable results will follow the treatment indicated. E. Hirschfeld (Australasian Medical Gazette, July 20, 1905).

ARTERIOSCLEROSIS, TREATMENT OF.

The writer reiterates the necessity for gentle, persevering measures in arteriosclerosis, avoiding the abrupt changes in medicines and diet. The efficacy of small doses of potassium iodide has been established, and recent researches show that this drug reduces the viscosity of the blood by acting on the corpuscles, making it more fluid without diluting it. He prescribes it five times a day in doses of .1 or .3 grams to be kept up for two or three years, with suspension one week in each month and one month after every three. Gastric disturbances should be avoided by refraining from all acids in the food and drinks while it is being taken. The author sometimes orders it with sodium bicarbonate, to be given in milk. Its use is directly warned against in cases of uræmic œdema of the lung occurring under the picture of cardial asthma, and also whenever the arteriosclerosis is complicated with any manifestations of exophthalmic goiter. In other cases the benefit may even include retrogression of organic lesions, although it is impossible to expect retrogression of thrombosis in a vessel in the brain or of fibrous degeneration of the heart muscle or contracted kidney. It is of the greatest importance to reduce to the minimum the demands on the arteries. Sufficient sleep is also to be insured, even with drugs at first. E. Romberg (Deutsche medicinische Wochenschrift, August 31, 1905; Journal of the American Medical Association, October 14, 1905).

BRACHIAL BIRTH PALSY.

The cause of the laceration type of birth palsy is tension on the nerve trunks, which first ruptures the nerve sheath and then the nerve fibers. The prevention of this serious lesion of the cervical nerve trunks rests with the obstetrician, who should not overstretch the child's neck in the process of delivery.

The persistence of the palsy is clearly explained by the pathological findings, viz.: *(a)* Rupture of the perineural sheath with hæmorrhage into its substance, resulting in the formation of hæmatomata or hæmatomatous infiltration into the neighboring tissues. *(b)* The cicatricial contraction following organization of the blood clot and repair of the rent in the perineural sheath. The connective tissue thus formed indents and presses upon the nerve bundles, strangulating them and preventing regeneration of the nerve fibers. In some instances the same result is accomplished by the turning inward of the perineural sheath upon the nerve bundles.

The nature of the lesion in all cases demands excision of the damaged areas and suture of the divided ends as soon as it is proven that spontaneous repair will not take place. The plan of treatment is then the same as that for peripheral nerve injuries elsewhere. In *all* cases such treatment as will prevent contractures and deformities and maintain muscle tone in the paralyzed limb should be systematically used until either spontaneous recovery occurs or operation is done. (Traumatic neuritis is a contraindication to active treatment.) It is obvious that the above measures should be continued after operation.

The proper time for surgical interference is not yet definitely fixed. It appears, however, to be much later than two or three months after birth, as advised in Kennedy's report. At the present time one year would seem to be a reasonable delay before operation. Sufficient time has not elapsed in the majority of the cases in this series for final results to have appeared. L. P. Clark, A. S. Taylor, and T. P. Prout (American Journal of Medical Sciences, October, 1905).

CEREBRO-SPINAL MENINGITIS, EAR COMPLICATIONS IN.

From the published statistics of more recent observers, the writer shows that it is exceedingly common, and states that both European and American statistics prove that a fifth to a sixth of all cases of acquired deafness are due to cerebro-spinal fever alone, while at times the proportion caused by this disease has been much greater. The opinions of authorities vary, however, as to the aural affection itself and the seat of the lesion. Some consider that the lesion is a central one, but it is more probable, and is now generally accepted, that an inflammatory condition of the labyrinth is the causative factor. The pathology of the lesion is described, and reference is made to the frequent occurrence of acute otitis media in cerebro-spinal fever as another though less important cause of deafness. The prognosis of the deafness is stated to be a very grave one, and treatment is unsatisfactory, though good results have been reported from the reduction of the labyrinthine pressure by the use of pilocarpine. Of 11 cases of cerebro-spinal meningitis recently examined by the author, in only two were subjective or objective evidences of ear disease to be detected. C. J. Colles (Medical Record, September 9, 1905).

CIRRHOSIS OF THE LIVER, TALMA'S OPERATION IN.

The Talma operation does not cure cirrhosis of the liver in advanced stages, but may in about 40 per cent. of selected cases ameliorate some of the symptoms, viz., ascites and hæmorrhage. Cases where the liver was enlarged gave a lower mortality and a higher percentage of improvement than cases of atrophic liver. Biliary cirrhosis associated with enlarged liver, jaundice, fever, and some ascites is best treated by cholecystostomy and drainage of the bile tracts. Many of the cases which were greatly improved by the operation differed in no way from some of those not improved, thus giving no guide for future selection of suitable cases.

Suture of the omentum between the layers of the abdominal wall gives a lower mortality and a higher percentage of improvement than merely suture to the parietes. Splenopexy may supplant omentopexy. Cases for operation should be selected carefully with regard to the indications and contraindications. Advanced cases should not be operated on as a last resort. Drainage increases the danger of septic peritonitis. The operation is not indicated for ascites due to other causes than cirrhosis, and is contraindicated in the presence of renal or cardiac disease and when evidence does not exist that sufficient functional liver substances remain to maintain life. William Hessert (Medicine, September, 1905).

COLITIS, HIGH-FREQUENCY CURRENTS IN.

The writer was consulted in an obstinate case of colitis, for which the x-rays were employed for about a month, but with no effect. The patient had been suffering from the complaint for over a year, and the stools always contained blood and mucus. As a forlorn hope high-frequency treatments were employed, the applications being first given through the hands, followed by fifteen-minute local applications, sometimes from the low tension, sometimes from the resonator, the patient improving generally. A prolonged course of treatment was employed, the patient attending regularly on alternate days. Gradually the symptoms became less, the diarrhœa diminished, and the blood and mucus were less abundant. At the end of nine months the patient was fully recovered. In three other cases of the ulcerative form of colitis there was marked improvement at the end of a similar period, and one which was treated for six weeks obtained slight relief. Of the mucous form of colitis four were treated, three of whom were cured and one greatly improved. E. W. H. Shenton (Archives of the Roentgen Ray, August, 1905).

COLITIS, SURGICAL TREATMENT OF.

The author states that physiologists are beginning to recognize the necessarily important part the appendix, cæcum, and ascending colon take in digestion. The fad of the day seems to be that the whole colon is simply a sewer canal, but its importance in digestion is proven by its glandular structure. Any interference of function reacts, producing either appendicitis or colitis. An interesting and important topic is the observation, by means of the x-rays and bismuth-impregnated food, that antiperistalsis is a constant factor in the digestive process of the large intestine. This admits of thorough mixing and absorption of the contents. Also experiments on the disposition of nutrient enemata, similarly conducted, demonstrated that these were ultimately carried to the cæcum, absorption taking place chiefly above the descending colon. Anything which disturbs the antiperistalsis is apt to induce an inflammation of the colon. Surgically, colitis is divided into three classes: primary bacterial, secondary bacterial, and that induced by mechanical interference. Upon these causes hinges the surgical treatment, and if carried out intelligently, will be successful. It will not do to confine all cases to a right inguinal colostomy. This was first selected for bacteriological cases, but even here Gibson's operation has many advantages. In the appendicular forms of colitis removal of the appendix is all that is required in the explosive form. Whereas, in the neurasthenic type of Deaver not only should the appendix be removed, but Gibson's fistula ought to be established. If this does not produce a return to health then some operation for exclusion must be done. J. E. Summers, Jr. (Annals of Surgery, July, 1905).

CONSUMPTION DIATHESIS.

The vagus reflex is always present in pulmonary consumption, being present in about 80 per cent. of healthy people who have a family history of consumption. In healthy persons without a family history of consumption the vagus reflex is universally absent, provided there is no family or personal taint of alcoholism, insanity, or other neuroses. In the development of the vagus reflex, dizziness, dyspnœa, coughing, and sweating are produced. The intensity of the vagus reflex, or, in other words, the number of symptoms that accompany its development, other than those which manifest themselves locally in the neck, seems to be dependent on the number of consumptive deaths that have occurred in the immediate family. The vagus reflex, by projecting the family history of the potential consumptive into the present, not only becomes a valuable sign in the diagnosis and prognosis of pulmonary consumption, but foreshadows that which is not otherwise evident to the senses, and thus also becomes an important factor in the prophylaxis and treatment of this disease. T. J. Mays (Physician and Surgeon, September, 1905).

DERMATITIS HERPETIFORMIS IN CHILDREN.

In a considerable number of cases of dermatitis herpetiformis as it occurs in children, the element of multiformity is wholly lacking, the disease showing itself by the recurrence of groups of vesicles and bullæ without other lesions. In a majority of cases the subjective symptoms, such as itching, burning, pain, and tingling are either absent or very slightly accentuated, so that, it seems to the writer, this feature cannot be considered one of the four cardinal symptoms of the disease in children.

Vaccination may, in certain cases, be the exciting cause of the eruption, not in the sense of an infection, but as one of probably many agents which may produce this train of symptoms in certain people. Certain regions of the body are especially affected by the eruption, viz.: the parts about the nose, mouth, and eyes, the backs of the hands and wrists, the backs of the ankles and feet, and the genital region. Unna's hydroa puerorum is to be placed by itself, either as a distinct variety of dermatitis herpetiformis, or as an independent affection. J. T. Brown (Journal of Cutaneous Diseases, September, 1905).

DIPHTHERIA, CARDIAC DISTURBANCES FOLLOWING.

The cardiac disturbance after diphtheria usually presents the picture of a mitral insufficiency with irregular heart action and few symptoms. Occasional cases have rapid pulse or cardiac irregularity without any other signs. Moderate disturbance of the heart is very common after diphtheria and in a large number of cases persists from two to six months after the original illness. In many cases the cardiac lesion does not clear up in the first half year, but lasts much longer; some ultimately recover; others probably do not. The duration of the heart trouble is usually in proportion to the severity of the original illness. The fact that children often have few heart symptoms after diphtheria must not mislead the physician as to the importance of the injury to the heart.

Cardiac disturbance of long duration following diphtheria may be entirely recovered from. It is not necessary to give up hope of recovery in individual long cases. The treatment of this condition consists in a sufficient period of rest in bed, and then in watching the effects of mild exercise on the heart for several months at least and grading it to meet individual requirements. F. W. White (Journal of the American Medical Association, October 21, 1905).

EPILEPSY, EMOTIONAL SHOCK AND FRIGHT AS CAUSES OF.

Emotional shock and fright, as causes of epilepsy, do not receive the attention they should, according to the writer. Epilepsy may supervene immediately after the application of such a cause or be delayed for some time. The re-application of the primary cause often induces successive attacks similar in nature. Predisposition usually exists in all such cases. In 1323 cases the writer found emotional shock or fright to have been the cause in 62 cases, 5.5 per cent. Of these patients, 22 were males in a total of 814, and 40 were females in a total of 509, being 3 per cent. of the former and 8 per cent. of the latter. This shows such causes to be nearly three times as active among men as among women. This greater susceptibility of women is present from childhood. During the first ten years of life there were 14 cases due to this cause among 814 males, and 15 cases among 519 females. After the twentieth year there was only one case in either sex. It appears from the studies in question that emotional shock or fright most often leads to epilepsy in the female sex, and that these factors are most apt to be active about the age of puberty. W. P. Spratling (American Medicine, September 16, 1905).

EPILEPSY, TREATMENT OF.

The author remarks that the majority of his epileptic patients had already been treated for years by other physicians before they came to him, and had taken quantities of the bromides without apparent benefit. His experience has convinced him that, as a rule, the symptomatic results of this drug have been overestimated, while its injurious by-effects have been underestimated. In a recent case he does not give the bromides nor in cases in which the intervals are two or three months, or longer. When the attacks are very frequent he gives bromide, but very cautiously, watching for its general as well as for its symptomatic effect. The mental decline which some accept as the inevitable result of the epilepsy in certain cases, he thinks, is much more liable to be due to chronic bromine intoxication. In place of bromine he gives belladonna and zinc oxide. They have sometimes succeeded after failure of bromine; especially in petit mal the latter has rendered him good service at times. An infusion of valerian, particularly before retiring, has also been found beneficial by some patients.

In discussing the subject of exercise for epileptics, the writer states that one of his patients took a mountain pedestrian tour and afterward felt better than for years. The fact is emphasized that the epilepsy is only a symptom, and that the general and psychic condition must be studied as much as this one symptom. The writer suggests that possibly the epileptic seizure may be a sudden discharge of all the accumulated tonicity ("spannkräfte") in the motor centers. This suggests further the possibility that it might be possible to prevent the seizures by calling on and fatiguing the motor centers until there is no possibility for their tonicity to accumulate. Treatment by muscular exercise certainly has some theoretic grounds, and he is now ordering therapeutic gymnastic exercises for some of his patients. If the cramps occur specially in a certain limb, he has the patient exercise the groups of muscles involved. The author has no special successes to report from this exercise-therapy, and it should always be strictly individualized, absolute rest being indicated for some patients. A. Strümpell (Deutsches Archiv f. klinische Medizin, Bd. lxxxiv, Nu. 1-4; Journal of the American Medical Association, September 30, 1905).

FUNGUS POISONING.

The great majority of mushrooms and other fungi are not poisonous, and the vast majority of deaths caused by fungi are due to one species, and one species alone. This is the *Amanita phalloides,* and it owes its lethal power not to an alkaloid, but to a toxalbumin—phallin. The author has been able to trace it as the cause of four deaths in his vicinity. The most commonly observed symptoms are vomiting, not occurring for several hours (ten to twelve) after eating the fungus, diarrhœa, pain in the abdomen, cramps of the stomach and diaphragm, intense thirst, cold sweats, collapse, sometimes headache, delirium, more or less complete suppression of urine, slight but distinct jaundice in severe cases, subnormal temperature, and sometimes cramps in the limbs. The post-mortem signs are absence of cadaveric rigidity, marked hypostatic discoloration, inflammation of the gastro-intestinal mucous membrane, localized ecchymoses of the liver, alimentary canal, pleura, and lungs, enlarged solitary glands, fatty degeneration of the liver, fluidity of the blood, and hyperæmia of the meninges. Usually the patient has been vomiting and purging long before he is seen, so that an emetic is not necessary. To relieve the great suffering morphine is almost sure to be required. To decompose any phallin left in the stomach, potassium permanganate should be tried. The cup-like base of the stem, the permanently white under-surface and gills, the shining pale-greenish or yellowish-white top, and the fact that it never grows far away from trees, especially oak trees, should enable any one to recognize this most virulent fungus. C. B. Plowright (British Medical Journal, September 9, 1905).

GOUT.

The writer describes a number of interesting experiments on the origin and nature of gout which he has been conducting with Frey. He found degenerative processes constant in the liver and kidneys of mice fed exclusively on meat. He also noted the total absence of the glycocol-destroying, urea-forming ferment in the liver of gouty subjects. He does not believe that pathologic changes in the liver are necessary for the production of gout, but that functional disturbances must certainly exist. Functional disturbances in the liver are very liable to entail disturbances in the urea metabolism. The absence of the glycocol-destroying and urea-forming ferment in the liver may be congenital or may be the result of improper diet or of constitutional poisoning. The remedies which have proved useful in gout owe this property probably to their beneficial action on the functions of the liver. Colchicin and benzoic and salicylic acids are powerful cholagogues, and they thus improve the conditions of the circulation in the liver. This is also accomplished by certain purgatives, hydrochloric acid, etc. Benzoic, salicylic, and quinic acids have a further beneficial action in that they bind the glycocol and thus prevent its exerting a precipitating action on the uric acid in the organism. The presence of glycocol with a large amount of urea entails precipitation of urates. When there is a gouty tendency, that is, a lack of glycocol-destroying ferment, urates are precipitated. This occurs in cartilage and connective tissue when glycocol is generated in them by nutritional disturbances. H. Kionka (Deutsche medizinische Wochenschrift, July 20, 1905; Journal of the American Medical Association, September 16, 1905).

HÆMORRHOIDS, EXTERNAL: PATHOLOGY OF.

The writer concludes that the walls of the hæmorrhoidal veins must undergo some pathological change before a thrombotic hæmorrhoid can develop; these changes being present, any undue pressure may cause an aneurismal dilatation of the veins. When the internal coat of the vessel is altered, there is more tendency for coagulation to occur. Sexual activity increases intravenous pressure and thus favors the condition; it is therefore a disease of adult life. The clot is always found in the diseased vessel and never in the perivenous connective tissue. L. J. Krouse (Medical Record, September 16, 1905).

HICCOUGH OF INFANTS.

In an apparently normal infant, hiccough occurs as a reflex from the stomach, and indicates a surcharged condition of that organ. It may happen because the stomach is particularly susceptible, or because too large a quantity of food has been ingested and has consequently produced distention. After serious digestive troubles, hiccough is an indication that the stomach has resumed its normal functions. Its value as a favorable sign is only relative. Its signification is to a certain degree of the same order as the regurgitation which is also observed in apparently healthy infants which have been fed too much or irregularly. It indicates at least that a sufficient quantity has been ingested to reach the limit of the digestive capacity of the stomach. Victor Thevennet (Lyon Médical, August 27, 1905; New York Medical Journal and Philadelphia Medical Journal, September 30, 1905).

INSANITY, ACUTE, THERAPEUTICS OF.

Insanity is a profound error in general metabolism, according to the writer, which may sometimes be overcome by alteratives—mercury, potassium iodide, and the chloride of gold and sodium. In considering the therapeutics of acute insanity, the physician must bear in mind the necessity of attention to the general constitutional state of the patient. Rheumatism, gout, tuberculosis, and syphilis require special consideration. Special attention must also be given to elimination by the bowels and kidneys. Intestinal fermentation, when present, must be diminished by intestinal antiseptics, of which the writer believes that salol and zinc sulphocarbolate are among the best. Disorder of the gastro-intestinal tract is one of the most common errors in these cases. Colonic impaction is common, and is frequently overlooked. Relief of this condition by aloetics and flushing, when this is resorted to early, will often change the whole aspect of the case. The author insists upon the importance of a generous diet for these patients, and states that if the mental condition of the patient interferes with this, forced feeding should be resorted to. In case this is necessary, the nasal tube should be used, unless there is some condition in the nose which would interfere with its use; in that case, the œsophageal tube will have to be used. Attention is called to the necessity of controlling the insomnia and caution in the use of chloral and of hyoscin hydrobromate is advised. D. R. Brower (American Medicine, September 23, 1905).

KERNIG'S SIGN AND ITS PATHOGENESIS.

From a study of the published observations relating to Kernig's sign, the author draws the following conclusions regarding its causation: In Kernig's sign we have, first of all, to do with stretching of the sciatic nerve. In the healthy state this stretching seems not to produce any pathologic conditions; but in disease when the nerve itself is affected or the nerve roots are affected—which undoubtedly takes place in acute meningitis — the stretched, affected roots react correspondingly, the posterior roots by producing pain, and the motor roots by producing contraction of the corresponding muscles, in the case of the sciatic nerve, the flexor muscles. The pain arising from the stretching of the posterior roots makes the patient instinctively keep away from further stretching of the posterior roots, as it happens, for instance, in dislocations when the muscles respond with strong contraction to any active or passive movements in the dislocated joints. The occasional occurrence of the sign in typhoid fever may be explained by the fact that the meninges are frequently affected in typhoid fever, so that the sign is due, not to the fever, but to the concomitant meningitis. Regarding other published cases in which Kernig's sign was present in the apparent absence of meningitis, it is hard to prove that in those cases the meninges were not affected, so that, commonly, Kernig's sign may be considered as a standard sign of inflammatory meningeal lesions, and, as being due to irritation of the spinal roots, produced by the stretching of the sciatic nerve. G. B. Hassin (Medical Record, September 9, 1905).

LARYNX, REMOVAL OF FOREIGN BODIES FROM.

Attention is called by the writer to the immediate difficulty with which one may have to contend in attempting forcibly to remove a foreign body, especially a cockleburr, from the larynx, that of the intense reflex laryngeal spasm which may be excited thereby against the sharp spines of the cockleburr. In attempting the removal of such a foreign body, the author invokes the aid of an antagonistic reflex—a reflex not only antagonistic to, but far more imperious than, that of the demand of the body for oxygen after forced, prolonged expiration. The tissues of the larynx are anæsthetized with a cocaine solution. The patient is instructed to attempt to phonate the vowel "a," the laryngeal mirror, and the Fauvel forceps having been introduced previously. The cockleburr is seized firmly just as the patient phonates, and is held immovably until the patient grows desperate for air, when she is ordered to breathe. The larynx relaxes into the position of forced inspiration and as it does so a slight wigwag motion of the forceps will instantly bring away the cockleburr without the loss of a single one of its spines and without wounding the laryngeal tissues. R. Barclay (Medical Fortnightly, September 11, 1905).

LEUCOCYTE COUNTING, CONVENIENT METHOD OF.

The writer designates this as the acetic acid and gentian violet method.

The solutions used are: (1) Aqueous solution acetic acid, 5 to 1000, 30 grams; (2) saturated alcoholic solution of gentian violet, 10 drops. The best instrument to use for the count is Hayem's hæmatimeter. In addition, one must have a pipette for measuring 20 centimeters of blood. Also one for measuring .5 cubic centimeter of the acetic-gentian-violet solution. Another necessary accessory is a small glass-stoppered tube, containing about 1 cubic centimeter, in which the mixture is kept to be examined either at the bedside of the patient or at the doctor's office any time between one-half hour to three hours after the blood has been drawn. The acetic acid dissolves the red blood-corpuscles, and the leucocytes alone appear in the microscopic field. The gentian violet is not strong enough to color strongly the whole leucocyte, but it makes the nuclei very visible and allows one not only readily to make the count, but also rapidly to determine the relative number of uninuclear and multinuclear cells. E. L. Gros (New York Medical Journal and Philadelphia Medical Journal, September 16, 1905).

LEUCOCYTE COUNTS IN BRONCHO-PNEUMONIA, LOBAR PNEUMONIA, AND EMPYEMA IN CHILDREN.

A well-marked leucocytosis is present in the broncho-pneumonia of children, and is independent of the amount of lung involved. The degree of leucocytosis in broncho-pneumonia stands in no relation to the height of the temperature. Though there are some exceptions, yet in broncho-pneumonia the general rule is that failure of the leucocyte count to drop when the pulmonary signs disappear indicates either a complication or a fatal termination of the illness.

A constant and considerable leucocytosis may regularly be expected in the lobar pneumonia of children. The degree of leucocytosis is about the same as in broncho-pneumonia (broncho-pneumonia: average leucocytosis in 19 cases, 33,900; lobar pnemonia: average leucocytosis in 24 cases, 31,700). The leucocytosis in lobar pneumonia differs from that in broncho-pneumonia in that the white blood-count is higher when the pulmonary involvement is greater. If in lobar pneumonia two or more lobes be involved, a relatively high blood-count may be looked for. The leucocytosis in lobar pneumonia furnishes no clue as to the height of the temperature. An increasing leucocytosis is the general rule in the lobar pneumonia of children, reaching the maximum just before the crisis. While failure to drop before the crisis may indicate a complication, yet this may be of special significance. The precritical drop in the lobar pneumonia of children is inconstant, of little or no prognostic value, and cannot be utilized as means of determining the time of crisis.

There is a high leucocytosis at the onset of empyema in children. In general it may be said that the diagnostic value of the leucocytosis in the pulmonary affections of children is limited. In certain instances, however, the leucocyte count is of great diagnostic aid. When, for example, in lobar pneumonia, resolution and the drop in the leucocytosis have occurred, and there are present signs exciting suspicion that empyema will be a sequela, then blood-counts should frequently be made at regular intervals. A sharp rise in the count, provided that other causes of leucocytosis can be excluded, is then strong presumptive evidence of a supervening empyema. Henry Heiman (Archives of Pediatrics, October, 1905).

MALARIA, WHITE CELLS IN.

The behavior of the white cells in a variety of forms of malaria were investigated by the writer, with especial reference to leucocytosis. His conclusions are as follows: The leucocytic reaction in malaria at the beginning of the disease takes the form of a slight increase in the number of white cells over the normal, while in the further course of the malady there is a diminution in the total number of white cells, owing to the increased cytolysis in the plasma and the organs. Upon recovery from malaria, the number of white cells becomes normal and the number of eosinophiles is increased. Accompanying malarial cachexia, there is a constant and marked hypoleucocytosis. The digestion leucocytosis is absent during the attacks, owing to the loss of appetite, and reappears when the appetite improves. Some forms of white cells (the eosinophiles, and possibly the polynuclear and mononuclear), are possessed of positive chemiotaxis toward the full-grown forms of parasites of malaria, and are capable of destroying them. It is probable that this destructive property of the leucocytes is employed by the organism in its battle against malarial parasites. In chronic malaria, the extensive destruction of white cells is probably also a means of defense. B. F. Petroff (Roussky Vratch, July 23, 1905; New York Medical Journal and Philadelphia Medical Journal, September 30, 1905).

METHÆMOGLOBIN AS A FACTOR IN CONSERVATIVE METABOLISM.

The writer believes a patient may be, and indeed is, often benefited by an induced methæmoglobinæmia effected by drugs now empirically employed, by oxidizing through this means the sub-oxidized leucomains which are found in time of disease to accumulate in abnormal amounts in the blood. These powerful reducing agents are able to take O from methæmoglobin, although the tissues cannot. The partial asphyxia of disease, as evidenced by dyspnœa and cyanosis, has as one, if not exclusive cause, the increased amount of oxygen required by the system to oxidize the tissues plus the leucomains or other like basic reducing substances, with which need the lungs cannot keep pace. With an induced methæmoglobinæmia in just that degree that may be required to sufficiently oxidize the basic substances, thereby preparing them for elimination or for further use in the animal economy, two paramount results are obtained: 1. The oxyhæmoglobin is conserved for use of the tissues. 2. Some oxyhæmoglobin is produced within the tissues, and herein vicarious function for an embarrassed pulmonary respiration is established. Bernard Oettinger (Journal of the American Medical Association, September 16, 1905).

NASAL CATARRHS, SULPHUR IN.

Excellent results have been obtained by the writer in the treatment of practically all forms of chronic nasal catarrhs, by insufflating sulphur into the nose and pharynx. The best galenical preparation for this purpose is the official sulphur precipitatum, U. S. P. Of course, if the nasal trouble is of constitutional origin or dependent upon some anatomical defect, the sulphur will only act as a palliative. The author advises using the insufflations two or three times a week for the first month and once a week for the next two months. Louis Kolipinski (Medical News, August 12, 1905).

NERVOUS SYSTEM, DIAGNOSIS OF DISEASES OF THE.

The diagnosis of nervous diseases is almost wholly dependent upon observation and interpretation. Some nervous diseases can be diagnosticated from a consideration of the patient's statements alone, but the physician who relies upon such data in order to make a diagnosis must very often err, no matter how great his experience or how profound his clinical acumen. If patients who suffer from nervous diseases are subjected to well-known methods of examination and the results of such examinations recorded and then thought given to their interpretation, particularly in the light of the time and way in which they occurred, there are scarcely any of the ordinary organic or functional diseases of the nervous system that will not readily be recognized. The reason why nervous diseases are considered to be a strange country by the general practitioner, is because there is an inherited conviction that such diseases are extremely obscure; because there is an acquired conviction that in order to unravel the intricacies of such diseases, a comprehensive knowledge of the anatomy and physiology of the nervous system is required; and finally, because many physicians do not take the trouble to acquaint themselves with the simple methods of testing for the existence of nervous disease. Any medical man who will put himself outside of these three limitations or obsessions, will have no more difficulty in dealing satisfactorily with nervous diseases than he has with any other disease in the province of internal medicine. Joseph Collins (Medical Record, September 16, 1905).

PANCREATIC DIABETES, ORIGIN OF THE SUGAR IN.

A burning question in physiology today, according to the author, is whether the large amounts of sugar excreted in pancreatic diabetes are derived from fat or albumin, or from both. In order to answer this question a careful investigation was made by the writer. Dogs were fed upon large quantities of proteid food, which contained neither carbohydrate nor fat. Such food was found to be codfish, which in winter and spring contains no glycogen nor glucosides, and only traces of fat. With such a diet pancreas-free dogs excrete for months such large quantities of sugar (amounting to 30 per cent. of the body-weight) that the sugar cannot possibly be derived from the glycogen or other form of carbohydrate stored up in the body. The excreted sugar, moreover, weighs more than the proteid substance of the body. The sugar, therefore, is derived either from the fat of the organism or from its proteid and that of the food. The immense amount of sugar, however, did not exceed that which might theoretically be derived from the fat stored in the body. In spite of the abundant albuminous diet the dogs emaciated to the very bones, as if they had been starved, and only the brain and heart remained intact. One marked difference between these and dogs that were actually starved is that in the former the fat alone mostly disappears. A second difference is that in the diabetic animal at death the weight of the liver exceeds that of the liver of the healthy animal. The enormously large diabetic liver has the normal chemical composition, and thus behaves exceptionally like the brain and heart of starved animals. This is explained by the fact that the liver by continuous effort in its struggle for existence with other organs, particularly for food, maintains its functional capacity. The most plausible explanation of diabetes is that the formation of sugar is the work of the cell-substance of the liver, by which not only glycogen, but also fat, is transformed into sugar. Every stimulation of the liver cell, either by innervation, or by carbon dioxide, phloridzin, adrenalin, or other poison, increases the production of sugar. If the organism is fed on large quantities of proteid, then the liver must naturally work over many nitrogenous derivatives of albumin. The more proteid is thus offered to it, the more its cells are stimulated, and thus its sugar-forming function is increased. The administration of ammonium carbonate similarly stimulates the liver cells. Besides, the administration of large amounts of proteid increases the entire bulk of the liver cells. It may thus be understood how in different individuals very different quantitative relations exist between proteid metabolism and sugar-formation, and why, at the lowest ebb of albuminous metabolism, any poison or other irritation acts as a stimulus of the liver cells, increasing the sugar-production, without an accompanying rise in the metabolism of proteids. E. Pflüger (Pflüger's Archiv, May 15, 1905; Medical News, September 23, 1905).

PHLEBITIS, TREATMENT OF.

The writer outlines the treatment suitable for obliterating phlebitis of the large veins, for subacute venous septicæmia, and for recurring phlebitis. Immobilization in the former should be absolute. A cast is not used, but the leg is held immovable by strips across it at the knee and above and below, the strips being pinned firmly to the mattress. Another strip should hold the foot immovable at a right angle to the leg. A strip across the lower part of the trunk should likewise be pinned to the mattress or tied to the side-bars of the bed. This technique allows supervision of the various parts of the limb without raising it, as would be necessary with a cast.

Sedative applications at first are followed by fomentations with a natural saline water for three or four hours, the part powdered with talcum, chalk, magnesia, and resorcin powder in the interim. When the temperature has been normal for twenty days, and the veins are indolent to palpation and the œdema is retrogressing, then partial passive mobilization may be commenced, limited to ankle and toes. From the twenty-seventh to the thirty-fifth day the muscles may be massaged, and at this time the knee and the trunk can be released. By the fortieth day the patient can be allowed to take a few steps. An elastic stocking should not be worn at first, but merely a light bandage wound from the foot to the thigh before the patient is allowed to get up. This promotes the establishment of collateral circulation. A crutch should not be allowed, as this favors vicious attitudes.

Subacute venous septicæmia or multiple, relapsing phlebitis, requires different treatment, measures to combat varicose congestion and to prevent the entrance of germs into the enlarged veins. The slightest phlebitis of this nature demands rest in bed with immobilization for twenty days, followed by passive movements of the joints; the rest of the limb does not require mobilization or massage, and these measures arouse the phlebitis again. An elastic stocking is needed when the patient gets up. Surgical intervention should be reserved for protracted phlebitis with successive emboli from disintegration of the clot and danger of septicæmia. It is also indicated in case of circumscribed, infected varicose ulcers. Each reawakening of the subacute venous phlebitis should be treated like a new focus, and mobilization should not be commenced until twenty days after the temperature has returned to normal. Local treatment should be the same as previously mentioned. The fomentations are especially effectual in aiding resolution in these cases, as the veins and perivenous surrounding tissue are accessible.

In recurring phlebitis in gouty subjects, immobilization is still the rule, for mobilization, massage, etc., do more harm than good. Postphlebitic accidents are generally the result of absurdly long immobilization, from three to twelve months. The pain and œdema are best treated by mild hydrotherapy, effleurage, and électricity. Massage under hot running water acts on the trophic trouble and on the muscular atrophy common in postphlebitic œdema. The author asserts that this delicate but energetic treatment which he recommends for the various forms of phlebitis effects cures without causing a train of sequelæ. H. Vaquez (Semaine Médicale, July 26, 1905; Journal of the American Medical Association, September 16, 1905).

PNEUMONIA, FREEZING POINTS OF BLOOD AND URINE IN.

From a study of the subject, the author has found that there is an absolute lowering of the freezing point of blood in pneumonia. The freezing point lowering of the blood depends in some way either on the extent of consolidation of the lung or on the height of the temperature, or both. This lowering of the freezing point of the blood is greater than would be accounted for by the increased venosity of the blood, due to deficient aëration in the lungs. The concentration of the blood increases, as shown by the lowered freezing point, as the disease progresses up to the time of crisis. Some time is necessary for the elimination of the excessive accumulation of products in the blood. Hence, several days elapse before the freezing point of the blood rises again to normal. In those cases where the heart weakens perceptibly, the freezing point of the blood becomes lower. In the fatal cases in which the heart gives out, the freezing point of the blood is extremely low. The lowered freezing point of the blood is apparently not due to deficient kidney function, but may be due to the inability of the kidney to excrete the excessive products of metabolism.

As regards the urine, the freezing point in pneumonia is considerably lowered. This lowering is greater than would be accounted for by a mere concentration of normal urine. The chloride excreted are constantly diminished, due to a decrease in amount taken in (Sollmann). The freezing point of the urine times the number of cubic centimeters voided is increased. The quantity of urine is decreased, whereas the freezing point is lower.

The lowering of the freezing point of the urine is not due to chloride, but to metabolic molecules excreted. The freezing point of the urine does not rise to normal until after that of the blood, that is, several days after the crisis. The specific gravity of the urine is not an accurate index to the concentration of the urine. The freezing point of the urine bears no constant relation to that of the blood normally, for in a case with a freezing point of blood at —0.54° C. the freezing point of the urine may normally be lower than in a case in which the freezing point of the blood is—0.57° C. or *vice versâ.* F. E. Schmidt (Journal of the American Medical Association, September 23, 1905).

PNEUMONIA COMPLICATING SURGICAL OPERATIONS.

As a preventive measure, the writer states that it should be a fixed rule that no patient who has at the time an acute coryza, tonsillitis, or bronchitis should be given an anæsthetic, except in case of absolute necessity. Not only is it desirable under such circumstances to avoid the irritant effect of the vapor of the anæsthetic, but under such conditions there is likely to be an increased virulence of the micro-organisms in the air passages. Ether should be given in the least possible concentration, and, to avoid aspiration of the secretions of the mouth, the patient's head should be kept low and turned to one side, in order to allow the secretions to flow out of the mouth. Previous to the administration of the anæsthetic the mouth should receive attention and the teeth should be carefully cleansed, after which an antiseptic mouth wash should be liberally used. The stomach should be empty, and in case of operation on that organ, lavage should precede the operation. If necessary to use chloroform in the presence of gas or lamp light, the room should be well ventilated. In case of weak circulation, it is very desirable to prevent hypostatic congestion. Such patients should have their position frequently changed, and as soon as possible should be raised to the half-sitting posture. The importance of meteorism as a factor in hypostatic congestion should not be lost sight of. Distention of the stomach embarrasses the heart's action by pressure and also encroaches upon the lower lobes of the lungs, preventing their full expansion. It should be relieved by re-establishment of intestinal peristalsis as early as possible after the first twenty-four hours following the operation. Following Czerny's suggestion, the patient should be urged to expand the lungs fully, even though the effort is painful, to further aid in the prevention of hypostasis. J. L. Rothrock (St. Paul Medical Journal, September, 1905).

PUERPERAL INFECTIONS, TREATMENT OF, BY TURPENTINE.

In the treatment of puerperal infections the want has been felt for an antiseptic with little toxic effect on the human organism. The writer believes that this agent has been found in oil of turpentine, which he used by intrauterine and hypodermic injection in streptococcal infections. Turpentine has been found to have marked antiseptic and antiphlogistic powers, which are exercised especially on the streptococcus. If the inflammation is local, the author employs an intrauterine douche of 15 cubic centimeters each of turpentine and alcohol, mixed with a liter of sterile water. If burning sensations are produced in the vagina and vulva, they may be avoided by a simultaneous vaginal lavage with sterile water. These injections should be made twice daily, and continued even after the temperature has reached the normal point. In cases where the infection has spread beyond the uterine cavity, the author employs subcutaneous injections. A mixture of 1 cubic centimeter each of turpentine and alcohol is agitated with 200 cubic centimeters of normal saline solution, and is injected into the cellular tissue of the abdominal wall. This treatment is to be repeated twice daily. M. Fabre (Lyon Médical, August 6, 1905; American Medicine, September 23, 1905).

RENAL CALCULUS, X-RAY DIAGNOSIS OF.

The x-rays are an extremely useful auxiliary to the ordinary methods of diagnosis in renal calculus, and this method should be resorted to in every case of suspected stone, and no operation should be decided upon until the case has been carefully photographed. The method entails a great responsibility and should in every case be carried out with the greatest possible care, for the patient's sake as well as for the operator's reputation, as a mistake may lead to such serious consequences. The great increase in the power of the apparatus used, and the increased knowledge of how to obtain the best results, will soon enable x-ray specialists to exclude all doubt in the interpretation of a negative.

In cases where the negative shows the shadow of a stone and an operation is decided upon, the patient should be rephotographed under as nearly as possible similar conditions a day or so prior to the operation. The writer considers this necessary, because in one case a patient was photographed and a diagnosis of renal calculus was made. The operation took place some time afterward, and no stone was found in the kidney. Another photograph was taken shortly after the operation, and the stone was again seen, but this time it was in the ureter. During the interval between taking the photograph and performing the operation the stone had moved downward. The writer considers that every case should be taken stereoscopically at least once. Morton Smart (British Medical Journal, September 16, 1905).

RHEUMATIC POISON.

The writer states that his experience shows that it is only necessary to cut out of the diet red meats, such as beef and mutton, and alcoholic stimulants, and reduce to a minimum all articles containing sugar. All other foods may be taken, and the best results come from a free use of white meats, soups, eggs, fish, cereals, vegetables, fresh fruits, milk, and coffee. As soon as acute symptoms have subsided, exercise by walking and massage is very necessary for good circulation and normal cell action. He is in favor of the cold sponge bath every morning, and in some cases a quick hot bath before retiring at night. Chronic cases also do well with a Turkish bath once or twice a week. Baths of mineral water have no remedial effect in rheumatism. The author does not believe that external applications, such as ointments, oils, and liniments, have any permanent value. In cases in which the muscles around joints are inflamed, sedative ointments and liniments give temporary relief while the full action of the internal medicine is waited for. The author protests against the use of colchicum, salicylic acid, salicin, and the salicylates in this condition. From the beginning of the treatment he used an alkaline mixture to stimulate the action of the liver and bowels, which contains in each dose 20 to 40 grains of sodium hyposulphite, 20 to 40 drops of glycerine, and 100 to 200 drops of cinnamon water. This makes a dose of 2 to 4 drachms, to be taken every morning before any food, and at night if required. In severe cases a larger dose may be given. If an analgesic is required one should be given that does not depress the heart. When the acute symptoms are past, tonics, such as iron, quinine, strychnine, and arsenic, should be given in gradually increasing quantities until full doses are administered, while special symptoms are cared for as in any chronic disease. F. LeRoy Satterlee (New York Medical Journal and Philadelphia Medical Journal, September 30, 1905).

SCIATICA, TREATMENT OF.

Pain in the course of the sciatic nerve is common, but genuine sciatic neuralgia is rare. Most of the cases are really perineuritis or interstitial neuritis, while others are symptomatic of interference with nutrition by some extrinsic lesion. The causes of sciatica are exposure to cold, overfatigue of the legs, and pressure on the nerve from habitual sitting in persons whose metabolic processes are impaired by rheumatism, gout, diabetes, or alcoholism, injuries from lifting heavy weights, horseback or bicycle riding, sewing-machine work, etc. Sciatic pain occurs in diseases of all neighboring organs that are associated with compression of the sciatic nerve or sacral plexus. Such are tumors and inflammation in the pelvis, or of the spinal meninges, vertebral caries, uterine disease, pregnancy, parturition, malignant disease of rectum, hæmorrhoids, hardened fæces, sarcoma of femur, etc. It may result from fracture or dislocation of the thighs. It is rare from lead, mercury, or syphilis. Anæmia, chlorosis, and hysteria have little influence in producing it. It may develop suddenly from exposure, or slowly when symptomatic of other diseases. The diagnosis is based on pain or tenderness over the nerve trunk, which radiates to the foot or toes, and diminution or loss of the Achilles-tendon reflex. When degenerative, it is accompanied by paralysis, atrophy, vasomotor disturbances, etc.

In the treatment of sciatica the first thing is the diagnosis of the cause and its removal when possible. In acute cases heat by the hot wet-pack, combined with rest and fixation and hot saline enemata, relieve pain. The bowels should always be moved by enema, and calomel given to unload the bowel and eliminate poisons. Morphine or opium suppositories are always indicated to obtain sleep at night. Massage, if gentle, is useful. Linear cauterization is of value in relieving pain, as is the ice-bag at times. The continuous galvanic current in either direction is useful at the end of one week. It is more useful in mild, subacute, or chronic cases. Mild cases will yield to hot packs, massage, and rectal irrigation. In subacute or chronic cases a modified rest cure is essential. Drugs are useless. Daily massage and passive movements, and systematic exercises are useful. Hydrotherapy, in form of local pack, Scotch douche, etc., is most valuable. Static or faradic electricity in the form of the brush is useful. W. M. Leszynsky (Medical Record, September 9, 1905).

SHOCK, CONDITION OF THE BLOOD-VESSELS DURING.

The author maintains that it is a mistake to suppose that a fall of blood-pressure indicates absolutely that the vessels are dilated. On the contrary, a contraction of an individual vessel always reduces the pressure within that vessel, and the effect on other parts of the vascular system is not invariably the same. Shock is of nervous origin. An injury to a nerve causes contraction of the arterioles throughout the body. If the irritation is sufficiently severe and persistent, the contraction tends to increase and extend to larger vessels. The blood is forced into the central warmer parts of the body, the vessels of which probably relax on account of the physiologic necessity for the conservation of heat. The veins of the internal parts are possibly enlarged more than the arteries, and there is an increased pressure in the portal system, but there is no loss of tone in any part of the vascular system. If the vessels in the splanchnic or other large area lose their tone, death must follow, as if from hæmorrhage. During these processes the blood must be subjected to pressure, and the blood plasma is forced out of the vessels into the tissues, thus raising the specific gravity of the blood.

The treatment of shock must be directed toward preventing the ill-effects of the local irritation, relaxing the vessels as soon as possible, and keeping up the blood-pressure in the superficial vessels until physiologic relaxation occurs. Nerve blocking by cocaine, the administration of morphine, and perfect anæsthesia are important measures in combating the first indication. Warmth, nitroglycerine, and alcohol are useful in dilating the vessels, as are also friction and the use of rubefacients. In order to keep up pressure in the vessels, hæmorrhage must be avoided. The injection of saline fluids is of temporary assistance, as the fluid is soon expelled into the tissues. Pressure on the abdomen, bandaging the limbs, the use of adrenalin, ergot, and strychnine are beneficial for a time; but they increase the work of the heart to an enormous extent, and may contribute to death from heart failure. J. D. Malcolm (Lancet, August 26, 1905).

STOMACH, HYDROCHLORIC ACID IN DISEASES OF THE.

The writer gave 20 minims of HCl in 90 cubic centimeters of water, two or three times, at fifteen-minute intervals, after an Ewald test breakfast. One hour after the meal was given the gastric contents were withdrawn and the acidity tested. Four tests were made. The total acidity was always increased, and in three of the four tests, free HCl was present in appreciable amounts. In one test it was absent. From 15 to 25 minims of HCl were given in 99 cubic centimeters of water three times within an hour after the ingestion of a large meat sandwich, and 300 cubic centimeters of water. Nine tests were made. In from sixty to seventy minutes after the meal was given, the total acidity of the gastric contents was always found increased, but free HCl was never present. The author also found that the long-continued use of large doses (45 drops, three times daily), of HCl diminished the total acidity. He believes that the HCl has a depressing influence on the gastric acidity which is not generally recognized. Peptic digestion, however, is accelerated by the use of HCl, although in certain conditions large doses in some manner retard peptic digestion. He is of the opinion that while large doses of HCl alleviate certain symptoms, they never improve any function of the stomach. R. F. Chase (Boston Medical and Surgical Journal, September 7, 1905).

STRICTURES OF THE RECTUM, NON-MALIGNANT: TREATMENT.

In the treatment of rectal strictures situated in the distal portion of the bowel, the writer advises painstaking prophylaxis, recognizing that many cases of so-called diarrhœa and dysentery are, in reality, cases of chronic proctitis, which, if neglected, may go on to the formation of strictures. To say this, is to insist upon a more careful investigation of these affections. The treatments consist in rest, diet, keeping the upper bowel emptied, cleansing solutions and applications, healing applications and packs.

A stricture of moderate caliber may be cured by dilation with bougies; by the elastic pressure of a rubber bag, distended by air and made to distend in a uniform manner by a silk covering (Sweetnam's plan); and by digital distention and massage. If a contracting bowel is watched and treated, the patient may go on for a long time, for years even, in great comfort, even though the disease is not cured and the parts are, both to the eye and touch, far from normal, and this is often better than surgical interference.

Resection of the bowel may be practiced even when the disease extends over an area as long as 20 centimeters. A posterior incision with the removal of the coccyx, and sometimes of the last sacral vertebras, with the preservation of the anal sphincters and ampulla when possible, and an end-to-end anastomosis of the bowel, is the best procedure. The writer has not had experience with Hochenegg's invagination method.

It is sometimes worth while in the attempt to save the bowel when the local process persists in advancing, to make an artificial anus completely diverting the fæcal current. The bowel may then heal and the extensive surrounding inflammation undergo resolution, when after some months or a year or more, and generally after a successful resection, the artificial anus may be closed.

In a high grade of tuberculous or syphilitic stricture, when an extensive area is involved, it is often best to make an artificial anus and extirpate the diseased bowel. The writer prefers to do this by amputating the bowel above first, and ligating such hæmorrhoidal vessels of the lower end as are within reach, and then to complete the extirpation from below by an incision from sacrum to anus. Advanced tuberculosis always demands extirpation, and syphilis calls, of course, for persistent specific treatments in addition to whatever local means may be employed. Howard A. Kelly (American Medicine, September 16, 1905).

SUPRARENAL HÆMORRHAGE OF THE NEW-BORN.

The writer states that common pathological changes found in the suprarenals are hæmorrhage, which converts the medulla of the organ into a pulpy mass, and embolism of the suprarenal artery, whereby the entire organ is destroyed. Occasionally, one or both organs will be converted into the large bluish tumors, whose contents are fluid blood. This is especially common in the newly-born, and many believe that the motions necessary for artificial respiration are the real cause. In a number of cases observed by the author, however, artificial respiration was not resorted to, and it is likely that severe labor, particularly if the child is in the breech position, will furnish the necessary trauma to rupture the friable suprarenal tissue and thus give rise to a hematoma. If both organs are affected the symptoms are those of Addison's disease, and death rapidly sets in. S. Oberndorfer (Wiener klin.-therap. Wochenschrift, June 18, 1905; Medical News, September 23, 1905).

SURGICAL CASES, TREATMENT OF.

Proper pre-operative and post-operative care of surgical cases is not secondary even to the technique of the operation itself. The value of habituation of the patient to the bed, giving a restricted non-putrefactive dietary, the alimentary canal emptied, and put in good condition, the eliminative organs inspected, and normal action if possible secured, and lowered states of resistance as far as practicable remedies, is inestimable. Shock may be at times averted and well treated by artificial heat and stimulants, of which the chief are the physiological saline solution and adrenalin. The stomach should be emptied and kept so for the alleviation of vomiting. The devotion of special care to the cleansing of the site of incision or mucous membrane is important. After the operation, conserving the energy of the patient in every possible way and avoiding needless purgation and unnecessary annoyances of all sorts are self-evident procedures, as are the prevention of tympany by proper dietetic measures and the avoidance of opiates. The value of physiological therapeutics in the management of the convalescent need not be insisted upon by the writer. J. E. Cannaday (New York Medical Journal and Philadelphia Medical Journal, August 26, 1905).

TABES DORSALIS, MERCURY IN.

The preferable treatment is that by injection of the soluble salts, given daily, twice or thrice a week. The injections should be intramuscular, given slowly and followed by massage. The puncture should be at least an inch and a quarter deep. The choice of the salt depends upon the case to be treated. The biniodide, the benzoate, and the bichloride are more active, but less well borne than the cacodylate or the hermophenylate when given in the same dose. In younger patients whose condition is good, the more active salts may be used in large doses. The dose, however, should be calculated for each patient according to the effect produced; when the insoluble salts are given the injection should be in one large dose per week, while the less irritating preparations are better given in repeated smaller dosage. The treatment is given in series of, in case of the insoluble salts, six to twelve injections; in case of the soluble salts, six to forty. These series are given at intervals of proper duration. The number of series in a "treatment" varies from two to four, as also does the number of "treatments" in a year. The patient should be given all the mercury that he will tolerate without exhibiting toxic symptoms, and proper diet, hygiene, and mode of life should be prescribed. Maurice Faure (Journal de Médecine de Paris, No. 11, p. 113, 1905; American Journal of Medical Sciences, October, 1905).

THROMBOSIS OF THE EXTERNAL ILIAC VEIN AFTER APPENDICECTOMY, CAUSE OF.

The author discusses the question why, as is generally known among practical surgeons, thrombosis of the external iliac vein occasionally occurs after an apparently aseptic operation for the removal of the appendix. The explanations that have been given of this annoying, and, it may be, life-threatening result are regarded as unsatisfactory by the author, whose personal experience of three recent instances of this kind have led him to the conclusion that the thrombosis is first developed, not in the cæcal roots of the portal vein, but in the epigastric vessels in the anterior abdominal wall, after simultaneous ligature of the arterial and venous trunks on the right side practiced for the arrest of bleeding in the course of the operation. In the majority of such cases, it is held, the consequent thrombosis is overlooked, as it is slight and limited to the right side, but occasionally it extends to the epigastric veins on the left side and onward to the left external iliac vein. If this be the correct explanation the surgeon, in opening the abdominal cavity, should carefully endeavor to avoid exposing the epigastric vessels. The external wound of a vertical one should be made well outside the sheath of the rectus and not be directed inward at its lower part, and if made parallel to Poupart's ligament should not extend too far inward. If any of the epigastric vessels be wounded only the bleeding branch should be ligatured and not a thick cord of both arterial and venous trunks. Witzel (Centralblatt für Chirurgie, No. 28, 1905; British Medical Journal, September 30, 1905).

TUBERCULOUS CERVICAL LYMPH GLANDS, SURGICAL TREATMENT OF.

Although recovery from tuberculosis, wherever situated, occurs not rarely, such a result, of course, is not always to be expected. When the disease is not accessible to surgical intervention the best results will be obtained from an intelligent combination of fresh air, a generous diet, and a proper adjustment of rest and exercise. On the other hand, surgical measures should be instituted when the disease is within reach. These remarks are applicable especially to tuberculosis of the lymphatic glands in the neck. Apart from the local disturbance, there is here also the danger of the conveyance of the disease to remote parts through the blood-stream. Admirable results have been reported from various sources from extirpation of such tuberculous glands, the prognosis being more favorable in children than in adults. To the statistics already published may be added those recently presented by Dr. Charles N. Dowd (Annals of Surgery, July, 1905), who records the results of operation by thorough removal of the affected glands with a minimum disturbance of the surrounding tissue in 100 cases, principally in children. In his opinion, tuberculosis of the cervical lymph nodes in the large majority of cases is due apparently to infection introduced by way of the fauces, the pharynx, or the nasal mucous membrane—in 86 per cent. of the cases under his own observation. Statistics show that extension to the lungs and other internal organs takes place in from one-quarter to one-half of the cases in which removal of the nodes is not undertaken. Apart from the tendency to infect other structures, the disease is tedious and a source of great discomfort and disability, and it leaves behind it disfiguring scars.

Thorough removal of the diseased nodes by operation has yielded better results than any other treatment that has been thus far employed. In favorable cases the operation is entirely safe, leaving a scar that is scarcely visible. The patient will be confined to bed probably for two or three days and will be required to wear a bandage or dressing for from one and a half to three weeks. There is freedom from recurrence in about 75 per cent. and ultimate recovery in about 90 per cent. of the cases. In less favorable cases, also, the operation is safe, while the disfigurement from scars is less than that resulting from discharging sinuses. There is freedom from recurrence in from 50 to 55 per cent., and ultimate cure in from 70 to 75 per cent. of cases. The preferable incisions are transverse, either in the creases of the neck or parallel to them; they should avoid the facial nerve. A vertical incision behind the hair line is occasionally helpful. Extensive incisions are necessary in advanced cases. Every precaution should be taken to preserve the normal structures of the neck. It is not feasible to divide the cases into groups of those suitable and others unsuitable for operation. Every patient with tuberculous cervical lymph nodes should be operated on unless the operation is positively contraindicated. Editorial (Journal of the American Medical Association, September 30, 1905).

TUBERCULOUS ULCERATION OF THE ASCENDING COLON SIMULATING APPENDICITIS.

A growth in the cæcum may be associated with attacks like appendicitis. These attacks may be due to obstruction or to inflammation of the parts around and this may go on to the formation of an abscess which may exactly simulate one due to appendicitis.

A growth in any part of the large intestine beyond the cæcum may become blocked, and if there is a competent ileocæcal valve, the cæcum is the first part to feel the stress of the obstruction, and at first all the pain is referred to this region. It is only as the attack passes off that the falling distension enables the lump elsewhere to be felt. Primary malignant disease of the appendix may be the cause of the symptoms. G. Grey Turner (Lancet, September 16, 1905).

TYPHOID FEVER, PERITONITIS IN.

The writer states unhesitatingly that by far the most important sign of the onset of acute peritonitis in a case of enteric fever is a sudden marked alteration in the general aspect of the patient, the appearance either of the typical Hippocratic facies, or a close approximation to it. Next in importance he places the presence of rigidity of the abdominal wall, with the associated abolition of movement of the abdominal wall on deep inspiration. Third comes the gradual increase of the pulse-rate, particularly if with the onset of symptoms there has been a sudden rise followed by a slight fall, and this again succeeded by a gradual progressive increase in the rate. Farquhar Macrae (Glasgow Medical Journal, October, 1905).

UTERUS, FIBROID TUMORS OF THE.

The routine treatment for fibroids of the uterus, presenting symptoms, in women under 45 years of age, should be supravaginal hysterectomy, except as hereinafter stated. The exception to this rule should be *(a)* in subperitoneal tumors either pedunculated or not, in which only one or more distinct developments exist which do not materially increase the size of the uterus proper and the area of its endometrium, when myomectomies may be resorted to; *(b)* in fibroids which present excessive hæmorrhagic tendencies, in which the hæmoglobin is reduced below 25 per cent., or in which serious vascular cardiac or kidney complications exist which greatly increase the risk of the operation, when a preliminary operation of vaginal ligation of the uterine arteries should be resorted to; *(c)* in cases where a radical operation will not be accepted, a curettement and vaginal ligation of the uterine arteries may be resorted to, or, if no operation at all will be accepted, general tonics, ergotine in tonic doses, and galvanism scientifically applied may be depended upon to relieve the patient materially, and occasionally tide them over the menopause to a complete symptomatic cure.

The treatment for large, complicated tumors without regard to age, or large apparently uncomplicated tumors in which symptoms of hæmorrhage or pressure exist, should be supravaginal hysterectomy.

Tumors of medium size apparently uncomplicated in women over 45 years of age, may be managed by one of the less radical forms of treatment as: *(a)* when the tumors are of the symmetrical development type, enlarging uniformly the uterus, and the principal symptom is an exaggerated menstrual flow, the cases may almost invariably be relieved by galvanism and tided over the menopause; or *(b)* if the growth is of the irregular type which has distorted more or less the uterine cavity, the case should be submitted to dilatation, finger exploration, curettement, and, if considerable flowing is a symptom, vaginal ligation of the uterine arteries, with the idea of obtaining a symptomatic cure over the menopause.

The extremely small class of tumors coming under the head of "inoperable" cases must be managed on general principles—rest in bed, general tonics, treatment of the cardiovascular and kidney complications when they exist, curetting and irrigating for septic endometritis, electricity for pain and hæmorrhage, ligation of the uterine blood-supply if practicable for intractable hæmorrhage, and vaginal incision of impacted cysts or pus accumulations. F. H. Martin (Chicago Medical Recorder, September 15, 1905).

VARICOSE ULCERS.

The ambulant treatment of leg ulcers is advised by the writer, because the patients, who usually belong to the lower classes, will not lie abed or enter a hospital while the ulcer is of a size to be easily curable. He uses a modification of Jessner's method, which consists of cleansing the ulcer and its neighborhood with benzine, dusting it with an antiseptic powder, and covering it with oiled silk. A roller bandage of cotton 20 centimeters wide is then applied over the whole lower third of the leg, including the ankle and the ulcer. Over this an elastic bandage is carefully applied. If applied with sufficient firmness a new dressing need not be applied oftener than once a week. With this treatment an ulcer the size of a dollar should heal in about six weeks. P. Loele (Therapie der Gegenwart, Bd. xlvi, Nu. 4; Journal of the American Medical Association, August 26, 1905).

VERTIGO OF AURAL CAUSATION.

In view of the existing knowledge of normal conditions in the semicircular canals, vertigo of aural causation may be regarded as primarily a pressure symptom. Pressure may be exerted on the labyrinth by forces operating from without, as the result of changes in the middle-ear transmitting apparatus. It may be produced from within by invasion of the intracapsular space as in the case of hæmorrhage into the labyrinth.

The effect upon the semicircular canals of intralabyrinthine pressure thus produced will depend as to its intensity and duration upon the locality and extent of the hæmorrhage invasion. The recurrent vertigos are the result either of an excessive intralabyrinthine vessel dilation from suspense of vasomotor inhibition of reflex origin, either alone or coupled with a persistent intralabyrinthine pressure of either extrinsic or intrinsic origin. C. J. Blake (Boston Medical and Surgical Journal, October 5, 1905).

WOUNDS, INFLUENCE OF PNEUMOCOCCI ON THE HEALING OF.

The pneumococci, if alone, cause little inflammatory reaction in the healing of wounds. Possibly, in surgical diseases caused by pneumococci, some protective substance is formed that ameliorates the symptoms, as occurs in the crisis of a pneumonia. In the treatment of a pus case, care should be used to prevent a mixed infection, as healing is much more apt to be rapid and smooth if only one variety of bacteria is present. J. Wirt Robinson (Medical Record, September 16, 1905).

Book Reviews.

A Treatise on Diagnostic Methods of Examination. By Prof. H. Sahli. Authorized Translation from the Fourth Revised and Enlarged German Edition. Edited with Additions by Francis P. Kinnicutt and Nathaniel Bowditch Potter. Philadelphia and London: W. B. Saunders & Co., 1905. Octavo of 1008 pages. Illustrated. Cloth, $6.50 net; Half Morocco, $7.50.

This work of Professor Sahli was first published in 1894 and followed by three other editions, this being the fourth. Not only are all methods of examination for the purposes of clinical investigation exhaustively considered, but explanations of the clinical phenomena are discussed from the physiologic as well as the pathologic point of view with (so the editors say) a thoroughness which has not been attempted in any other work of similar scope as yet appearing. A brief review is added of the investigations of American and English observers on the clinical estimation of blood-pressure, with descriptions of some instruments for this purpose by Theodore C. Janeway. Several prominent teachers and clinicians have added notes to special chapters of the book, which are indicated by their initials. Among these are Joseph Collins, Charles Norris, H. C. Jackson, Arnold Knapp, and W. Sohier Bryant. In the preface of the fourth edition the author states he has laid equal stress on all the various branches of internal medicine. In the different sections he acknowledges changes and additions through a review of the work done by Jaquet, Volhard, Reissner, Hehner-Malay,. Mett, Nirenstein, Schiff, etc. A number of new methods and tests are added, among which are those of Seliwanow, Bial, Klemperer, and others. It is impossible to present all the additions and modifications which the preface of the fourth edition sets forth, but these amount to a very considerable number and mostly of much importance. A very large number of additions are made to the section on Examination of the Nervous System, and with some important discussions and explanations of vexed questions. Nevertheless, the size of the book has not been greatly enlarged, because some older methods, not having stood the test of time, are omitted. Many of the more original observations and suggestions in this book have never been published elsewhere, and many of the theories advanced are the author's own. Altogether, the book will be found of great value to clinicians, and especially to those who desire to become thorough and complete in researches in all departments of internal medicine. The illustrations are numerous and excellent, and many of these are quoted from American observers. Some of the diagrams are in three colors, but are not excessively elaborate, at least not enough to prove confusing. There are a few handsome colored plates, notably two giving seventeen views of the fundus of the eye, one of Koplik's spots and several of blood cells. On the whole, the illustrations are beautiful and admirably selected. The index occupies forty pages and seems most comprehensive. Indeed, the book will be greatly welcomed, notwithstanding the fact that we are accustomed to admirable home-grown books on similar lines, notably the masterly work of Simon on Clinical Laboratory Methods and that on Diagnosis by Musser.—J. M. T.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D. Seventh Edition, Revised and Enlarged. Octavo of 1297 pages. Fully Illustrated. Philadelphia and London: W. B. Saunders & Co., 1905. Cloth, 5.50, net; Sheep or Half Morocco, $6.50, net.

Dr. Anders has presented us with so many valuable editions of his work on the Practice of Medicine that the appearance of this, the seventh, edition is an event we have a right to expect. There is little to be said upon the book as a whole, so much having already appeared, and all pointing to the wisdom and thoroughness of the author that we can do little more than speak of the special features of the seventh edition. The well known diagnostic tables are retained and amplified, because, as the author states, of many assurances from students and practitioners of their extreme helpfulness. The new subjects introduced are Rocky Mountain Fever, Examination of Patients for Diagnosis of Diseases of the Stomach, Splanchnoptosis, Cammidge's Tests for Glycerose in the Urine, and Myasthenia Gravis. Paragraphs on the following subjects are also added: Pseudotuberculosis, Benign Cirrhosis of the Stomach, Intestinal Lithiasis, Intestinal Calculi, Red Light in Variola, Emulsion-Albuminuria, Sequela of Valvular Lesions, and Adams-Stokes Syndrome. The subjects of Paratyphoid Fevers. Beriberi, and Trypanosomiasis have been rewritten. Attention is drawn to tropical diseases now appearing in temperate latitudes. The section on Diseases of the Nervous System has been revised by Dr. Joseph Sailer, and, as before, he acknowledges the assistance of Drs. L. Napoleon Boston and R. H. Spangler. The book will continue to maintain a high position in the esteem of all students of medicine.—J. M. T.

HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE. A Manual Contributed to by G. Abelsdorff, L. Blumreich, R. Eberstadt, A. Eulenburg, C. A. Ewald, P. Fürbringer, M. Gruber, W. Havelburg, A. Hoffa, R. Kossmann, F. Kraus, R. Ledermann, A. Leppmann, E. v. Leyden, E. Mendel, A. Moll, A. Neisser, J. Orth, S. Placzek, C. Posner, P. F. Richter, H. Rosin, W. Wolff. Edited by Prof. Dr. H. Senator and Dr. Med. S. Kaminer. Only Authorized Translation from the German to the English by J. Dulberg, M.D. Rebman Company, New York and London, 1905. Two Volumes.

This masterly work on a very important subject now appears in English. A full review of the German edition appeared in the MONTHLY CYCLOPÆDIA about five months ago. As was then said by the reviewer, this work contains a series of essays of great value ordinarily omitted in medical works, but which, nevertheless, requires presentation to the profession, and also to the laity. Indeed, it would be of great utility if some one would prepare a resumé of the practical points contained in the monographs in such form that they could be understood and utilized by the laity. In its present massive form it serves as a valuable reference book, but is not in such shape as to be consulted by the very ones who need it most.—J. M. T.

THE EYE, MIND, ENERGY, AND MATTER. By Chalmers Prentice, M.D. Published by the Author. Chicago, 1905.

Dr. Prentice has evolved a work which gives his own individual views on the power of the mind as a curative agency. He also advances his opinions on the elucidation of the phenomena of diseases, especially of those of the eye. His concept is a triple alliance between physical culture, faith cure, and the conservation of energy.—J. M. T.

CARBONIC ACID IN MEDICINE. By Achilles Rose. Funk & Wagnalls. Price, $1. 1905.

Dr. Rose contributes an interesting little book under the above title on the use of carbonic acid baths. He has availed himself of the publications of Winternitz, Fellner, Homberger, and others, giving scientific explanations of a number of facts thus far only known empirically. His views on physiology and chemistry of respiration are from Hammarstein. The author expresses his indebtedness to Dr. E. C. Dent, of Manhattan State Hospital, Ward's

Island, who encouraged the introduction of carbonic acid baths there. The book contains a series of chapters, beginning with one on physiology and chemistry of respiration and passing on through the history of the use of the remedy, dealing at length with the therapeutic effects of carbonic acid gas in various conditions and maladies. In Chapter IX he teaches us that rectal fistulæ can be cured by means of carbonic acid applications. Altogether, the book serves a good purpose in making clear a rational method valued by the ancients.—J. M. T.

Superstition in Medicine. By Prof. Hugo Magnus. Authorized Translation from the German. Edited by Dr. Julius L. Salinger, Late Assistant Professor of Clinical Medicine, Jefferson Medical College; Physician to the Philadelphia General Hospital, etc. Funk & Wagnalls Company, New York and London, 1905. 12mo. Cloth. 214 pages. Price, $1.

This subject is treated in a scholarly manner in an interesting little volume. The scope of the work can be appreciated best by reference to the seven chapter headings. In the first chapter medical superstition is defined as follows: "Belief that the normal as well as the pathological manifestations of organic life may be explained and eventually treated without consideration of their physical nature by means of supernatural agencies." In the second chapter is considered theism in its relation to medicine and in its struggle with the physico-mechanical theory of life. In the third is shown how religion has been the support of medical superstition, while in the fourth chapter is described the influence of philosophy upon the form and origin of medical superstition. The fifth deals with the relation of natural science to medical superstition. The sixth chapter tells how medicine itself exerted an influence upon the development of superstition. The seventh chapter has been written by the translator; in it is described the relation between medical superstition and insanity. The book is very interesting as well as instructive.—H. C. C.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"The National Standard Dispensatory." Containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized by the Pharmacopœias of the United States, Great Britain and Germany, with numerous references and other Foreign Pharmacopœias. In accordance with the United States Pharmacopœia, eighth decennial revision of 1905 by authorization of the Convention. By Hobart Amory Hare, B.Sc., M.D., Professor of Therapeutics in the Jefferson Medical College, Philadelphia, Member of the Committee of Revision of the U. S. P.; Charles Caspari, Jr., Ph.G., Phar.D., Professor of Pharmacy in the Maryland College of Pharmacy, Baltimore, Member of the Committee of Revision of the U. S. P., and Henry H. Rusby, M.D., Professor of Botany and Materia Medica in the College of the City of New York, Member of the Committee of Revision of the U. S. P. Imperial octavo, 2858 pages, 478 engravings. Cloth, $7.25, net; leather, $8, net. Thumb-Index, 50 cents extra. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.——"Practical Massage in Twenty Lessons." By Hartvig Nissen, Instructor and Lecturer in Massage and Gymnastics at Harvard University Summer School; Director of Physical Training, Brookline Public Schools; Former Acting Director of Physical Training, Boston Public Schools; Former Instructor of Physical Training at Johns Hopkins University and Wellesley College; Former Director of the Swedish Health Institute, Washington, D. C., etc., etc. Author of "Swedish Movement and Massage Treatment," "A, B, C of Swedish Educational Gymnastics," "Rational Home Gymnastics," etc. With forty-six Original Illustrations. 168 pages. 12mo. Price, Extra Cloth, $1, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.——"Transactions of the Twenty-seventh Annual Meeting of the American Laryngological Association," held at Atlantic City, N. J., June 1, 2 and 3, 1905.——"Transactions of the American Otological Society, Thirty-eighth Annual Meeting," Boston, Mass., May 9 and 10, 1905. Volume IX, Part I.——"Cystoscopy and Renal

Lavage." By F. M. Johnson, Boston, Mass, 1905.——"An Inspection of the Eastern Pennsylvania State Penitentiary with Reference to Tuberculosis." By Guy Hinsdale, Hot Springs, Va., 1905.——"Some Results of Abdominal Operations." By G. E. Shoemaker, Philadelphia, 1905.——"Some 'Liver' Cases." By J. H. Carstens, Detroit, Mich., 1904.——"Paraplegia from Fracture of the First, Second and Third Dorsal Vertebræ; Seven Other Fractures; Laminectomy; Recovery with Ability to Walk with Assistance." By Guy Hinsdale, Hot Springs, Va., 1905.——"Report of Working Party No. 2, Yellow Fever Institute." May, 1904. United States Public Health and Marine Hospital Service, Washington, D. C., 1905.——"Tobacco Investigations in Ohio." By G. T. McNess and G. B. Massey, United States Department of Agriculture, Washington, D. C., 1905.——"Forest Reserves in Idaho," United States Department of Agriculture, Washington, D. C.. 1905.——"Trade with Noncontiguous Possessions in Farm and Forest Products, 1902-1904." United States Department of Agriculture, Washington, D. C., 1905.——"The Commercial Cotton Crop of 1903-4." By J. L. Watkins, United States Department of Agriculture, Washington, D. C., 1905.——"Game Laws for 1905." By T. S. Palmer, H. Oldys and R. W. Williams, Jr., United States Department of Agriculture, Washington, D. C., 1905.——"Manurial Requirements of the Portsmouth Sandy Loam of the Darlington Area, South Carolina." United States Department of Agriculture, Washington, D. C., 1905.

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Editorials.

DEPARTMENT IN CHARGE OF

J. MADISON TAYLOR, A.M., M.D.

ELECTRO-THERAPEUTICS.

THE older works on electro-therapeutics, with a few exceptions, give to the reader, on the whole, a more hopeful view of the value of electricity in the treatment of diseased conditions than is warranted. The general practitioner could readily receive the impression from a perusal of these works that electricity is almost a panacea for all ills. Its application in many nervous conditions as well as diseases of the internal organs is described, in which no orthodox therapeutist would recommend its use.

There are many who are enthusiastic advocates of electro-therapeutics, and there are many, on the other hand, who have absolutely no faith in its efficacy. There is, however, a common-sense and practical position to be taken, and the true value of this therapeutic measure should be recognized, as it is of great use in the diagnosis and treatment of certain nervous diseases. If the general practitioner makes himself familiar with these conditions, he will find it an important aid to other therapeutic measures.

Excluding the x-ray, the forms of electricity which are of practical importance in the treatment and diagnosis of diseases are, (1) the faradic, or induced current; (2) the galvanic, or direct current; (3) the static, or frictional current; (4) the sinusoidal current, and (5) the high-frequency current. The difference in the effects of these currents is largely one of degree, with the exception of the galvanic current, which has certain specific qualities.

The galvanic current applied to the skin produces (1) local congestion; (2) stimulates muscular contractions; (3) applied over a gland causes increased secretion; (4) has an electrotonic action; (5) produces a chemic and electrolytic effect; (6) influences osmosis, and, finally (7) is of value as a means of suggestion.

The faradic current does little more than act as an irritant, causing involuntary contraction of healthy muscles and excitation of sensory nerves. Its irritative action produces also some vasomotor dilatation.

When the static current is applied to a motor point muscular contractions ensue. It also is of value as a peripheral counter-irritant, and it produces a powerful psychic effect.

The sinusoidal current has the same physiologic qualities as the faradic current, but has the advantage of producing little or no pain.

The high-frequency current, according to Apostoli, affects powerfully the nutrition of the organism. Rheumatic states, according to the same authority, are benefited by its use. Apostoli is very enthusiastic about the value of this form of current, but an experience, though limited, in the use of these currents has made the present writer less so.

To understand the proper application of electricity in the treatment of disease it is necessary to be familiar not only with electrophysics, but also electrophysiology. The technique of the application of electricity requires much practice. One must be familiar with the resistance of the body, and the resistance offered by electrodes, as well as the proper methods to reduce this resistance to a minimum. It is necessary to know that the skin should be thoroughly moistened, and the electrodes saturated with water; that the electrodes should be held in close contact with the skin, and that applying the electrodes to a bony point causes unnecessary pain.

The electro-therapeutist must be familiar with the motor points of the body, that is, that portion of the muscle where the nerve enters. He should know that when the galvanic current is applied to the body there are different effects at the negative and positive poles. He should know that at the point where the negative pole touches the skin, if the current is sufficiently powerful, there is liquefaction, and that at the positive pole there is coagulation of the tissues.

The effect of electricity upon the brain is not great or important. When applied to the skull there is dizziness, nausea, pallor, and, if the current be sufficiently strong, there is sometimes fainting. When efforts are made to affect the spinal cord with electricity the results are always doubtful.

The effect of electricity upon the peripheral nerves is readily demonstrated. The special senses can be stimulated with great facility. Application of the galvanic current to the olfactory nerve is followed by the recognition of an odor. Stimulation of the gustatory nerve produces a metallic taste. Stimulation of the optic nerve produces flashes of light. The auditory nerve, also, is susceptible to stimulation by the galvanic current, that is, CaClC produces a sense of sound, which is increased by AnOC. CaOC or AnClC produces no reaction.

Electricity is of much value as an aid in the diagnosis of certain forms of nervous disease. In order to employ this diagnostic measure it is necessary to have a clear and definite idea of the reaction of degeneration. The DeR (reaction of degeneration) occurs in muscles which are cut off in any way from their connections with the ganglion cells in the anterior horns of the spinal cord, and may be present in diseases of the anterior horns, diseases of the spinal roots, and diseases of the nerve trunks themselves. DeR means that CaClC is less than AnClC, generally speaking, but if a muscle responds to galvanic stimulation in a sluggish, wavelike manner this itself is pathognomonic of the reaction of degeneration. DeR may be present also in the cranial nerve palsies, when the palsy is due to either a nuclear or a peripheral disease. It is found in isolated muscles in progressive muscular atrophy of spinal origin. In lead palsy DeR is found in the paralyzed muscles, and may also be found at times in the muscles which show no paralysis.

The use of electricity is of some prognostic value. If, in peripheral palsy, the DeR appears shortly after the paralysis, the prognosis is rendered more grave. On the other hand, if the faradic excitability persists in spite of a lowered galvanic excitability, the prognosis is more favorable.

In the opinion of the writer the therapeutic value of electricity is somewhat restricted. Every general practitioner should be familiar, however, with the indications for its application, as in those diseased conditions which call for its use it is of great value, and in most instances it cannot be replaced by any other therapeutic measure.

The galvanic current is an essential factor in the treatment of palsies of peripheral origin. In the treatment of these diseases one should be familiar with the proper technique for the application of the current. For example, in the early stages of a traumatic neuritic the indifferent or negative electrode should be placed between the scapulas or over the sacrum, and a small electrode attached to the positive pole of the galvanic battery should be applied to that part of the nerve which is diseased. The current should be small in amount, usually about 4 to 6 milliampères being sufficient, and should be applied for five minutes.

A knowledge of the localization of nerves is necessary, and also a familiarity with what is called the motor points of the muscles—that portion of the muscle where the nerve enters it.

Later, after the acute inflammation has subsided in cases of neuritis, and in which the muscles have undergone DeR, the best results are obtained from an interrupted current, applying that pole to the muscles which, with an interrupted current, gives the best contractions. When DeR is present the anode over the muscle produces this result.

Spasmodic conditions of the muscles, such as spasmodic wry-neck, call for the application of electricity, but the results are not always satisfactory.

The value of electricity in the treatment of progressive muscular dystrophies is not very great. It has certainly no curative action, and if it has any effect at all it serves but to delay the progress of the disease.

In the treatment of palsies of spinal or cerebral origin electricity plays a minor part, with the exception of acute poliomyelitis. In this disease, however, together with massage, it constitutes the principal and most important feature of the treatment.

In apoplexy, thrombosis, embolism, and brain softening electricity is of no value; nor is it to be used in myelitis or systemic spinal diseases. In locomotor ataxia the sinusoidal current has been recommended by some writers, but a fairly extensive experience with this treatment in the hands of the writer has been discouraging. The galvanic current, however, sometimes helps the lancinating pains of this disease, and temporarily relieves the incontinence of urine if applied locally.

Sciatica, especially the subacute forms, is greatly helped by the application of a stabile or labile galvanic current, the anode being stroked over the painful nerve, while the cathode is placed over the sacrum.

The pains of trifacial neuralgia are often relieved temporarily, and sometimes permanently, by the skillful application of the stabile or labile galvanic current in small doses, the anode, as a rule, being placed peripherally, and the cathode at some indifferent spot. Sometimes, for empirical reasons, the reverse current seems more effective.

The galvanic current is highly recommended by some authorities for the treatment of exophthalmic goiter. It seems, in some cases, to lower rapidity of the heart's action, temporarily, and on the whole, should be used in every case. The anode is placed at the nape of the neck, and the cathode stroked slowly up and down the inner border of the sternocleido-mastoid muscle, the object being to stimulate the pneumogastric nerve, and thus slow the heart's action. The anode is afterward placed over the base of the heart, and the cathode at the nape of the neck. I have seen, by this means, the pulse-rate lowered 10 or 20 beats per minute. But, in some cases, the current does not seem to act well, and the pulse-rate is increased.

In the treatment of chronic joint diseases, especially rheumatoid arthritis, the results are unusually happy, in fact, associated with massage, daily galvanism, extending over a prolonged period of months, it seems to exert a curative action upon the latter disease.

Electricity should be used with caution in the treatment of psychic disorders. It has the disadvantage of possibly suggesting to the disordered mind new delusions. However, in mild cases of melancholia, without delusions, the static breeze seems to have a beneficial psychic influence, probably largely, if not entirely, by means of suggestion.

In hysterics and neurasthenics, as an adjunct to massage, the slowly interrupted faradic current applied to the motor points of all the muscles, for from half to one hour, is useful. The "dry brush" is of value in treating hysteric sensory disturbances, and also those sensory manifestations which are so frequent in the neurasthenic. Hypochondriac neurasthenics are often helped by the application of the static breeze, and the tired headache of the overworked brain is undoubtedly relieved by this measure.

The treatment of diseases of the thoracic and abdominal organs does not often require the use of electricity. Gastric dilatation or atony, or atonic constipation, indicate, sometimes, the application of the faradic or galvanic currents, and these measures are often useful, when skillfully employed. But in the treatment of other diseases of the internal organs so many measures are of so much more value than electricity that no one should feel called upon to employ it.

While this is not the sum total of all our information about electro-therapeutics, it perhaps covers the important knowledge that we have on the subject. With few exceptions, no disease, not mentioned above, can be vitally influenced by the application of any form of electricity described in the foregoing paragraphs.

John H. W. Rhein.*

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CLINICAL FACTS RELATING TO SUPERHEATED MILK.

We are indebted to Soxhlet for devising means of procuring germ-free milk. This noted chemist believed that to kill the germs in milk should be our sole object in its preparation, regardless of the after-effects. The profession all over the world took this hint kindly and there are sterilizers in use wherever civilization is found.

Sterilization aims chiefly to destroy pathogenic bacteria, such as typhoid or diphtheria bacilli, thus preventing the introduction of living disease germs into the body. The main argument in favor of complete sterilization is the necessity to destroy tubercle bacilli and prevent the transmission of tuberculosis.

If milk contains pathogenic bacteria for any length of time, the toxins generated by these bacteria will not be destroyed, even though the milk be subjected to a temperature much higher than that of the boiling point. The toxins of some pathogenic bacteria can withstand a temperature of 300° F., according to Prof. Victor Vaughn.

The mistake made in the teaching of Soxhlet's principle is that it disseminates the impression that if milk is sterilized for from thirty to forty-five minutes the same is a wholesome article for baby-feeding, bcause the living germs were killed by continued steaming; *ergo,* the milk is suitable for infant-feeding.

This is not true because, in the first place, even prolonged boiling does not kill the spores of all bacteria; and in the second place, the *chemical poisons produced by certain germs* are not altered by the temperature of boiling milk. These toxins remain in solution and are poisons which, when continuously given, must hurt the infant. I have always associated the continuous feeding of milk containing toxins in solution as one of the causes of scorbutus and perhaps the main cause.

Immunity from infectious diseases has frequently been found in the nursling, due no doubt to the presence of a large quantity of serum, which holds anti-bodies in the human milk.

There is no question in my mind that the serum albumin and lactalbumin present in cows' milk contains immunizing and protective substances similar to those found in human milk, which are destroyed when milk is subjected to the process of sterilization; and which protective substances are not altered or modified when milk is heated to a temperature ranging between 100° F. (my plan) or to that of 140° F. (Babcock and Russell's plan), for the reason previously stated.

The physiologic requirements are that all the constituents of the milk must be digested before they can be absorbed into the system. Therefore, there is distinct loss of utility in boiled milk because the living cells of fresh milk do not enter into the circulation direct as they would do in fresh unboiled milk.

In practice it will have been noticed by most medical practitioners that there is a very distinctly appreciable lowered vitality in infants who are fed on boiled milk. The process of absorption is more delayed, and the quantity of milk required is distinctly larger for the same amount of growth and nourishment of the child than is the case when fresh milk is used.

Milk consists of a number of fat cells suspended in serum. These cells form the cream. The serum consists of water in which is dissolved milk-sugar and serum albumin, with various salts, including iron, and chief factor of all, casein. The cells with the exception of the fat-corpuscles are all living cells, and they retain their vitality for a considerable time after the milk is drawn from the mammary glands.

There is reason for supposing that when fresh milk is ingested, the living cells are at once absorbed without any process of digestion, and enter the blood stream and are utilized in building up the tissues. The casein of the milk is ingested in the usual way of other albuminoids by the gastric juice and absorbed as peptone. There is also absorption of serum albumin by osmosis. The chemical result of boiling milk is to kill all the living cells and to coagulate all the constituents. Notably herein we have coagulated albuminate of fluorin and iron.

Butyric acid is frequently found instead of lactic acid after submitting milk to the process of sterilization. The first evil result noticed while using sterilized milk is that children so fed are *constipated.* It is noteworthy that prolonged use of sterilized milk results in *rachitis.* For this reason the symptom of constipation has been so intimately associated with the resultant rickets that many clinical observers believe constipation to be in many instances a forerunner of rickets. There are many cases of *scurvy* that can be traced to a long-continued use of sterilized milk, and when such scorbutic symptoms manifest themselves, a radical change, such as the feeding of raw milk, will modify such a condition very rapidly.

What has just been said concerning the use of raw milk in the treatment of scorbutus applies equally well to the benefit which will be noted when we attempt to relieve a constipated condition during sterilized milk-feeding and prescribe raw milk.

Let me explain what raw milk is. Raw milk is natural milk. Because a woman nurses her baby with milk without subjecting it to chemical changes, hence it is natural milk, *i.e.,* milk served in its natural state. If we imitate Nature and take woman as an example, then cows' milk, if procured under hygienic conditions, with strict sanitary supervision, may be fed to children without subjecting the milk to the process of sterilization. Certain reasons can be given as to why a woman's breast-milk is, and should be, neither boiled, sterilized, or pasteurized. For this reason the albumin, fat, salt, and sugar are fed in a very assimilable form.

When milk is sterilized or boiled there is a coagulation of the living substances, such as the albuminate of iron and phosphorus, which are derived from tissues containing them, and hence they are present in a devitalized form as proteids.

Infants require phosphatic and ferric proteids in a living form. These are present in raw milk only. When we prescribe codliver-oil as a restorative in rickets, we do so in order to feed "a live food" to overcome the harm that has been caused by giving a devitalized or dead food. Such deadness or devitalization is produced by feeding sterilized milk or boiled milk for any length of time.

Exceptional instances may be quoted where milk must be steamed or pasteurized to a temperature capable of destroying the tubercle bacillus. This can be accomplished, according to Russell and Babcock, by subjecting milk to a temperature of 140° F. This should be borne in mind if the source of the milk is unknown or the age of the milk cannot be ascertained. When, however, we have municipal control and the sanitary supervision of milk dairies, and we are conversant with the methods used in the dairy, then my advice has always been to warm the milk to blood heat (temperature, 100° F.) for five minutes and feed in this manner the required quantity at stated intervals.

A careful inquiry into the results of sterilization will show that:—

First.—The coagulation of the milk albumin by sterilization or boiling may render the milk more difficult of digestion.

Second.—Sterilization or boiling interferes with the coagulability of milk by rennet, and presumably, therefore, with its digestibility by the gastric juices.

Third.—Free fat, as found in sterilized or boiled milk, is probably not readily assimilated in infant food. The fat, not free, being inclosed in a less easily destructible envelope, is probably slow of digestion.

The following table of C. H. Stewart[1] shows the percentage of soluble albumin in milk at various temperatures:—

Time of Heating.	*Soluble Albumin in Fresh Milk.*	*Soluble Albumin in Heated Milk.*
	Per Cent.	Per Cent.
10 minutes at 60° C. (140° F.)	0.423	0.418
30 minutes at 60° C. (140° F.)	0.435	0.427
10 minutes at 65° C. (149° F.)	0.395	0.362
30 minutes at 65° C. (149° F.)	0.395	0.333
10 minutes at 70° C. (158° F.)	0.422	0.269
30 minutes at 70° C. (158° F.)	0.421	0.253
10 minutes at 75° C. (167° F.)	0.380	0.070
30 minutes at 75° C. (167° F.)	0.380	0.050
10 minutes at 80° C. (176° F.)	0.375	none
30 minutes at 80° C. (176° F.)	0.375	none

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[1] Taken from "Infant Feeding in Health and Disease," third edition, Louis Fischer. F. A. Davis Co., publishers, Philadelphia.

A study of the above table will soon convince the student that there is a decided loss of albumin which is the proteid and really the backbone of milk. The loss of albumin occurs least in pasteurized milk and most in milk subjected to a temperature required to sterilize according to Soxhlet's method. When we consider the treatment advocated to relieve scurvy brought on by a continuous feeding of "dead milk" caused by high temperature sterilization, then the indication is to stop sterilization and feed a milk containing a "live factor," which is warmed raw milk.

In attempting to relieve obstinate constipation by continuous sterilized milk-feeding, nothing will replace the sudden change of feeding with milk subjected to less heat. This method has been used and advocated by me for many years, and is simply imitating Nature.

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HINTS FOR THE INTERPRETATION OF URINALYSES.

The editor, some time ago, requested me to write an article on the interpretation of an analysis of the urine. I confess the subject is approached with some degree of hesitation; when one takes into consideration the vast amount of literature on the subject to be found in the medical and chemical journals, works on urinalysis and clinical diagnosis, to say nothing of the fact that most text-books on medicine and many of the specialties contain more or less on the significance of urinary abnormalities, the field appears to be so thoroughly covered that an article of this kind is not justifiable. However, one who studies the subject will be confronted by a mass of literature on the significance of certain variations from normal in the composition of the urine, much of which is contradictory, showing that, in spite of the great amount of research on the subject, the true significance of many abnormalities is not yet known; again, in many of our works on urinalysis much is said about the various methods employed, with a discussion of their relative merits, and very little on the interpretation of an analysis after it is made.

The busy practitioner manifestly cannot keep up to date in all branches of medicine, and we find that clinical diagnosis, while one of the most important, is still one of the most frequently neglected subjects, and it is this class of practitioners to whom this is offered.

An analysis of urine should be based on a twenty-four hours' excretion; the urine should be collected in a sterile bottle, passed directly into the receptacle when possible; when not, the vessel used should be thoroughly washed out with boiling water each time it is to be used, and precautions employed against the entrance of more extraneous micro-organisms than is absolutely unavoidable; when these precautions are carried out I have found the use of preservatives in the majority of cases unnecessary, and to be avoided if possible, as those capable of preserving the urine, unless used intelligently, at times greatly interfere with the estimation of certain urinary constituents. The sample submitted for analysis should be taken from the total quantity after thorough agitation of the receptacle to insure an average sample; it is not infrequently of advantage to collect the urine passed at various intervals in separate bottles and submit the whole for analysis. This procedure I have seen in several instances aid greatly in determining the exact nature of intermittent and obscure cases of albuminuria. When an analysis is negative, in a case in which the diagnosis is difficult, several analyses should be made; too much dependence is frequently, in these cases, placed on the results of one analysis, and many discrepancies between the urinary conditions, physical and post-mortem findings, are in all probability due to the fact that enough analyses have not been made. If these precautions are carried out, and not too much taken for granted from one negative or even positive analysis, many physicians who now say that they do not place much dependence on a urinary analysis would change their views. I have seen many times in private and hospital laboratories samples of urine for analysis standing around in a variety of receptacles, waiting their turn, manifestly in various stages of decomposition; how one can expect to obtain information of value from such specimens is more than I can conceive.

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In interpreting a urinalysis we must take into consideration the normal urine, the physical characteristics, amount, and relation of the various constituents; any abnormalities in the relation of the normal, and the presence and amount of abnormal substances; also the condition, habits, etc., of the patient; the character and amount of food ingested; and last, but by no means least, the drugs which are being employed. The normal amount and composition of the urine of a healthy individual varies markedly, depending on the relation between the imbibition and abstraction of fluid in the body, but that of a healthy adult may be put down as from 1200 to 1500 cubic centimeters, and will contain approximately 60 grams of solids, of which 25 grams will be inorganic and 35 grams organic constituents.

The inorganic substances are sodium, potassium, ammonium, calcium, magnesium, and iron, combined principally with the following acids: hydrochloric, sulphuric, nitric, phosphoric, and oxalic. The organic constituents are: urea, uric acid, creatinin, hippuric acid, with small amounts of other organic compounds, among which are traces of acetic, formic, butyric, and lactic acids, oxaluric acid, traces of carbohydrates, proteids, acetone, pigments, etc.

Abnormal constituents are acetone, in more than traces, diacetic acid, oxybutyric acid, volatile fatty acids in large amounts, lactic acid in more than a trace, fats, leucin, tyrosin, alkapton, albuminous substances, blood and certain of its derivatives, bile pigments and acids, urobilin in large amounts, indoxyl, phenol, and skatol in large quantities, cholesterin, lecithin, etc., including compounds derived from, and produced by the ingestion and action of certain drugs. The quantity eliminated in twenty-four hours is normally subject to considerable variation.

Polyuria is observed in diabetes mellitus and diabetes insipidus, and during the resorption of large pericardial, pleural, peritoneal, and subcutaneous effusions, in chronic diffuse nephritis, and following strong psychical disturbances. One form of polyuria ("epicritic polyuria") occurs during convalescence from acute febrile diseases, and is looked upon as a favorable sign; a polyuria of this kind indicates the elimination of waste products which have accumulated in the system during the course of the disease. It must be borne in mind that a polyuria may appear after the subsidence of the fever, be followed by a marked oliguria, and in some cases the termination will be fatal.

Polyuria may occur in multiple myelomate of the bones, in functional and organic nervous diseases; it frequently occurs as a transitory and permanent symptom in hysteria, neurasthenia, migraine, chorea, and epilepsy. Large quantities of a very pale urine are secreted after severe and profound hysterical attacks. Paroxysmal polyuria is usually associated with functional, and continuous with organic, nervous diseases, as in certain cases of abscess, cerebro-spinal and spinal meningitis, the first stage of general paresis, tumors of medulla, cerebellum, and spinal cord, injuries of the central nervous system, Basedow's disease, etc.

Oliguria is seen in many conditions associated with a lowered blood-pressure, as in cardiac diseases with failing compensation, in acute febrile diseases, acute nephritis and chronic parenchymatous nephritis, diarrhœal diseases, following hæmorrhage, in puerperal eclampsia, hysteria, etc. Obstruction to the flow of blood in vena cava or liver, increasing venous or decreasing arterial pressure in the kidneys, causes a diminution in the amount, as in atrophic cirrhosis, acute yellow atrophy, thrombosis of the vena cava and renal vein, or pressure exerted upon them by tumors, ascitic fluid, etc. Shock following the use of anæsthetics frequently results in an oliguria, or even anuria.

From the color, which varies normally from a pale to a reddish yellow, very little information can, as a rule, be obtained. Pale urines either have an excess of water or a small percentage of pigment, which may be normal, but may occur in diabetes, chronic interstitial nephritis, hysteria, and various anæmias; and further, during convalescence from febrile diseases. Dark colored urines are either concentrated or febrile urines with an excess of pigment, or may be due to the presence of certain drugs, as phenol and its derivatives.

The most important pathological pigments are those due to blood-coloring matters, the color varying from a bright red to a black, the shade depending on the quantity of blood-coloring matter present, and the changes the blood may have undergone either before or after voided, and also as to whether the pigment is in solution or contained in the erythrocytes; and those due to the presence of biliary coloring substances, the color varying from a greenish-yellow to a greenish-brown. In chyluria we have a milky color.

The odor is usually of little significance. Some lay stress on the odor of acetone in diabetes, but one is not justified in determining the presence of this substance by the sense of smell. An ammoniacal odor in freshly voided urine is important, as it indicates a cystitis. After the ingestion of certain food-stuffs the urine will have a characteristic odor which is of no significance clinically.

The reaction of normal urine is slightly acid; pathologically, a strongly acid urine may be seen after poisoning with one of the organic acids; and a marked acidity is found in acute febrile diseases, phthisis, diabetes, and leukæmia. Strongly alkaline urine may be due to the ingestion of alkalies, or to the production of ammonia by bacterial action in the bladder.

The specific gravity varies normally from 1012 to 1022. A low specific gravity indicates either an excess of water or a low amount of solids. Pathologically we find the specific gravity low in diabetes insipidis, hysteria, and in chronic interstitial nephritis. A high specific gravity is found in febrile urines, concentrated urines, and in diabetes mellitus.

The chlorides are present in larger amount than all other inorganic salts combined, the normal amount being from 10 to 15 grams in twenty-four hours, depending directly on the amount and character of the food. The chlorine is greatly reduced in starvation, sometimes almost completely disappearing. An example of this is found in conditions causing stenosis of the pyloris, such as gastric carcinoma; in these cases the chlorides are of some importance, the amount present being an index to the amount of food absorbed. The excretion of chlorides is reduced in most acute febrile diseases, as scarlatina, roseola, variola, typhoid fever, and pneumonia; also, in acute yellow atrophy of the liver, in acute and chronic renal diseases, associated with albuminuria; in chronic hypersecretion with gastric dilatation, a decrease which may, in certain cases of hyperaciditis, with gastric ulcer, go on to almost total absence is frequently observed. A total absence has been noted in pemphigus foliaceous. In anæmic conditions, rachitis, melancholia, and idiocy a marked decrease is observed, and to a less extent in dementia and chorea.

The chlorides are found in increased amount in all conditions when retention has previously occurred, such as acute febrile diseases, and during absorption of exudates and transudates, with an increased diuresis. A marked increase is found in many cases of diabetes insipidus. In epilepsy, the polyuria following the attacks is associated with an increase of chlorides. Certain drugs, as some diuretics, and some potassium salts produce an increase; chloroform administered internally or as an anæsthetic is in part eliminated in the form of a chloride. Salicylates, it is claimed, cause a temporary diminution. In many cases the estimation of chlorides is of little or no diagnostic value. In acute febrile diseases the decrease of chlorides appears to be in direct relation to the intensity of the disease, and when there is an almost total absence, 0.05 to 0.1 gram in twenty-four hours, the case is usually one of extreme gravity. The elimination of chlorine also gives us a fair index of the digestive powers of an individual; this is of importance in most chronic diseases.

The Phosphates.—A diminution is observed in most acute febrile diseases, the degree of diminution, as that of the chlorides, being an index to the severity of the disease; and in chronic diseases in which there is a decreased metabolism. It is claimed that in typhoid fever with intense nervous manifestations, an increased elimination during the fastigium is looked upon as an unfavorable symptom, while an increase during defervescence is favorable. A similar decrease in phosphates has been observed in pulmonary tuberculosis associated with marked pyrexia. Of importance is the decreased excretion of phosphates, associated with acute and, to a certain extent, chronic nephritis, amyloid kidney, and the anæmias. A diminished excretion is seen in osteomalacia and certain other destructive diseases of the bones, although at times an increase of the earthy phosphates is found. During profound hysterical attacks there is a diminution in the phosphates, frequently in proportion to the intensity of the attack. Low phosphates are noted in chronic lead poisoning, Addison's disease, acute yellow atrophy, and in certain cases of hepatic cirrhosis; in gout, the phosphates decrease before the onset of an acute attack, then rise, following the uric acid excretion closely. An increased elimination of phosphates occurs in diabetes mellitus; here we must take into consideration the large proteid intakes of the patient, a peculiar relation frequently exists between the elimination of phosphates and glucose in this disease, the amount of the former rising and falling in inverse ratio to the latter. An increased elimination of phosphates has been described under the name of phosphatic diabetes and phosphaturia; patients suffering from this condition are usually subjects of nervous disorders, and frequently of sexual neurasthenia—the true cause and significance of this condition is as yet unknown.

An increased deposit of phosphates is found in the urine of patients suffering from acute or chronic inflammations of the genito-urinary tract, but if the amount of phosphates be determined they will be found within the normal limits.

Bromides, cocaine, and quinine cause a decrease in the amount of phosphates; the cerebral excitants cause a relative decrease, while the cerebral depressants produce an opposite effect.

The Sulphates exist in the urine as preformed and conjugate sulphates. The elimination of sulphates depends, to a great extent, upon the degree of albuminous decomposition taking place in the tissues, hence, to a certain extent on the quantity of proteid material ingested; the degree of intestinal putrefaction accordingly plays a part. An increased elimination is observed in acute febrile diseases, followed by a decrease during convalescence; in leukæmia, diabetes mellitus, diabetes insipidus, visceral carcinoma, in certain diseases of the nervous system, and in some skin diseases, as eczema, an increased elimination is noted, while in chronic renal diseases they are as a rule decreased.

The estimation of the conjugate sulphates, and the relation existing between them and the preformed, are usually of more importance than that of the total sulphates; in both cases, however, the information obtained from their estimation is usually disappointing. The conjugate sulphates are increased in all cases of intestinal putrefaction and in many cases of gastric disturbances and in obstruction of the bile ducts; while in non-obstructive jaundice they are frequently decreased. An increase has been noted in cases of hepatic cirrhosis and carcinoma. The conjugate sulphates are increased by the use of drugs containing the aromatic group, and in phosphorus poisoning; while the ingestion of the terpines and camphor causes a diminution. The total sulphates are increased by morphine, the salicylates, and certain antipyretics; alcohol causes a slight diminution in the excretion.

In health the ratio between the sulphates and total nitrogen is surprisingly constant; this relation is disturbed in many morbid conditions, but it is disappointing to note that our knowledge of the significance of this disturbed relation is extremely limited, and it is therefore of comparatively little value in diagnosis.

Of the clinical significance of so-called neutral sulphur, which constitutes about 15 per cent. of the total sulphur in the urine, very little is known; an increase is observed in biliary obstruction; the greatest increase is noted in the condition called cystinuria.

Oxalic Acid.—The oxalic acid in the urine is derived from two sources: the greater portion from the food ingested; the remainder is formed by some rather obscure metabolic process in the tissues. When an excess of oxalates is found in the urine, the diet of the patient should be closely inquired into before concluding that an abnormal oxaluria exists.

An increased elimination of oxalates is noted in certain gastro-intestinal and nervous disorders, in some cases of diabetes, obesity, and in many cases of jaundice. The so-called oxalic acid diathesis, the symptoms of which it has been claimed are due to the presence of oxalates in the tissues, is to-day looked upon by the majority of writers from a different standpoint, namely, that the excess of oxalate is due to a faulty metabolism, a disturbance of function, and to which the symptoms are due, the oxalates being a manifestation of the condition rather than the cause.

The Ammonia.—There is a fairly constant ratio existing between the total nitrogen and the ammonia nitrogen in a person living under normal conditions. The ammonia nitrogen factor is greatly increased in acute gastro-enteritis, and as a rule in hepatic diseases, phosphorus poisoning, acute infectious fevers, and frequently in diabetes, but there is a question as to whether it is of much diagnostic value.

Urea is undoubtedly the most important of the nitrogenous urinary constituents, notwithstanding the statement of a few writers who have taken the stand that the estimation of urea is of comparatively little importance. The amount excreted in twenty-four hours under normal conditions is about 30 grams, manifestly depending to a great extent on the character and amount of food ingested. Urea is increased in acute febrile diseases, many cases of diabetes, pneumonia, and phosphorus poisoning. A moderate increase has been observed in leukæmia, scurvy, chorea minor, and paralysis; certain drugs, as coffee, caffeine, morphine, codeine, ammonium chloride, increase the amount of urea. A marked diminution is found in many hepatic diseases, as acute yellow atrophy, carcinoma, Weyl's disease, and cirrhosis; also in starvation and some renal diseases.

In acute nephritis there is usually a diminished amount, due to a retention of urea in the tissues. In the early stages of chronic parenchymatous nephritis the urea may or may not be lessened; in the later stages the urea is greatly diminished in amount.

Simon says: "Whenever there is disease affecting that portion of the renal parenchyma which is concerned especially in the elimination of urea, a diminished amount will, of course, be met with, and carefully conducted observations upon the excretion of the various urinary constituents are here of considerable value from a diagnostic as well as a therapeutic standpoint. As the glomeruli of the kidneys are mainly concerned in the elimination of water and salts from the blood, and as the striated epithelium of the convoluted tubules appears to provide for the excretion of urea, the elimination of a fair amount of the latter with a diminished elimination of salts, the phosphates being of special interest, as they are derived to a large extent from albuminous material, would point more particularly to glomerular disease. On the other hand, a fair excretion of phosphates and a diminished excretion of urea would be indicative of tubular disease. Whenever glomeruli and tubuli contorti are equally diseased, an insufficient elimination of both phosphates and urea will be observed."

A diminished excretion of urea is noted in many cases of melancholia and general paresis, after epileptic, cataleptic, and hysterical convulsions; the diminished excretion noted in Addison's disease is by some authors attributed to nervous disturbances. A decrease is found in chronic anæmias, chronic rheumatism, osteomalacia, and certain skin diseases, and in chronic lead poisoning.

Uric acid, depending to a great extent on diet, exercise, etc., is normally eliminated daily in amounts varying from 0.5 to 1.5 grams. An increase is found during the acute symptoms in gout; after the symptoms subside the elimination will quickly drop, frequently so low that tests will reveal but a faint trace, and will remain low until the acute stage again becomes manifest, when it will steadily rise. The greatest increase is found in leukæmia; a considerable increase is noted in the diseases associated with a marked leucocytosis, as erysipelas and pneumonia; in other febrile diseases an increase is less marked. In acute articular rheumatim it is increased during the febrile period, as the temperature falls, and during convalescence the elimination decreases and falls to, or even below, normal. It is usually diminished in diabetes; in some cases we will find, with a diminution in the amount of sugar, an increase in the elimination of uric acid. In the ordinary form of anæmia and chlorosis the amount is quite constantly diminished. A decrease is also noted in chronic interstitial nephritis, and chronic lead poisoning.

The Xanthin or Purin Bases have, in the past ten years, been the subject of a great deal of discussion; normally, they are present in very small amounts; pathologically, they may be said to increase or decrease with the uric acid; this while the rule is not invariably the case. Our knowledge of the value of the estimation of these bodies for diagnostic purposes is as yet extremely limited.

Hippuric acid is found in normal urine in small amounts, 0.1 to 1 gram being excreted in twenty-four hours. It is increased by the use of certain drugs, notably the benzoates. It is diminished or totally disappears in acute and chronic nephritis, and in amyloid diseases of the kidney. It is frequently greatly increased in acute febrile diseases, hepatic diseases, diabetes mellitus, chorea, etc.

Kreatinin is a normal constituent of the urine, and while a great deal has been said regarding its pathological significance, we must admit that very little of value has been demonstrated.

The total nitrogen excretion has within the past few years become what bids fair to be an important factor in urinary diagnosis, but at present the practitioner gains from it but few facts of diagnostic value. An increase in the excretion, *i.e.*, a diminution of the nitrogen contained in the organism, is seen in diseases accompanied by marked malnutrition, and is noted in sepsis and other forms of infection, including many of the infectious diseases; an important factor in the increase being the action of bacteria or their toxic products in the breaking down of proteid. A similar condition is seen in patients suffering from carcinoma and other malignant growths, pernicious anæmia, chronic infectious diseases, including tuberculosis, in the leukæmias, phosphorus poisoning, exophthalmic goiter. An increase is noted in nephritis with a high degree of albuminuria, this manifestly being due to the nitrogen content of the albumin; large quantities are excreted during the resorption of an exudate.

A diminution is noted in convalescents, owing to the fact that the nitrogen of the food is being used for tissue repair.

In nephritis, especially in the last stages of the chronic diffuse form, a considerable decrease in elimination occurs; frequently a marked increase will be found in the nitrogen of the fæces in these cases.

NATHANIEL GILDERSLEEVE.*

(To be concluded in next issue.)

LESSONS IN PHYSIOLOGY FROM SURGERY.

NO REASONABLE dissent can be made from the assumption that the medical profession most needs light on the subject of physiology. Clinicians are perpetually confronted with the phrase, in numberless variants, in text-books and other literature, "on this fundamental question we know practically nothing," or "if we could know accurately the action of such and such a group of phenomena we could explain the rationale of those under discussion" or "until we have information on the physiology of so and so, we can only conjecture," etc.

Yet, notwithstanding the mass of data collected by those exceedingly persistent, acutely observant, highly specialized workers in lines of pure physiology, there remains conspicuous gaps in our knowledge of subjects whereon we must have information, otherwise we cannot comprehend many of our most important clinical problems. When we are supplied with practical manuals on "Clinical Physiology," divested of the confusing conjectural data which mar the best text-books and monographs on physiology, providing elucidation of much now unknown, the general practitioner can proceed to reason upon the phenomena of his cases and apply the logic of cause to effect, to outline, and apply indications for treatment, to estimate relative etiology and forecast results.

At present he must be content to accept the reasoning of master minds at second-hand, and these are only too often nullified by contrary opinions, positive or tentative data which are often either actually conflicting or apparently so because of diversities in the points of view. At all events he is crippled in his best endeavors to obey the mandates freely expressed by "authorities" to avoid empiricism; to act on "rational" or "physiologic" lines.

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Worst of all, our undergraduates, certainly in some schools, are taking less and less interest in physiology except to "pass." They freely assert that they do not see much utility in the subject of physiology, nor are they to be altogether blamed, as the subject is now taught. It may be well taught, somewhere, but it is not usually presented in such guise as to furnish the aid it must of necessity do, if we are to unravel successfully the mysteries of human ailments. These mysteries are, many of them, just as profound as a century or two ago, and others are opening up vistas just as discouraging as ever, especially as we know enough to realize our need to know with exactitude so much more.

The reason for much of this difficulty lies in the fact that few, almost none, of our professors of physiology, are trained clinicians. They are, as a rule, biologists, and achieve an M.D. only for the purpose of satisfying technical demands. Nor will this deficit be met till the practical branches are presented only by clinicians who are also trained physiologists. It is only too plain that many of our clinical teachers are unfamiliar with the elemental principles of modern physiology. Hence it follows that the public perceives that the most obvious tangible advances in our professional knowledge are accomplished by the surgeons. Not only are their problems more concrete and definite, but they have been studied with a mixture of sound common sense, practical experience, logical steps compounded of carefully compared and sifted empirical findings, but they adopt judiciously, in addition to their anatomical mechanics, whatever of bio-chemistry, physics, pathology, and therapeutics the whole realm of scientific medicine is able to afford them.

Clinicians have made many contributions to physiology which, as S. J. Meltzer says, physiologists are over-slow to avail themselves. Again, in the debatable ground between normal and morbid functional phenomena, "physiology has set up some laws, but if conditions appear which do not fit in with these laws, physiology declines to deal with them; it refers you to medicine."

"The laws which physiology establishes must be capable of covering the functional phenomena in all conditions of life, normal and morbid. Nature makes daily thousands of experiments upon man and beast, and physiology refuses to utilize them for its own elucidation."

Furthermore, the research workers in medicine receive their training in a science made up largely of morphology, hence their contributions to medical science are essentially of a morphologic character. What we need most is a study of physiology under morbid conditions. "Diseases which are exclusively due to palpable anatomic changes are quite well understood. Their harmful effects are, for the most part of a mechanical nature. In proportion as they are understood, these forms of disease become amenable to efficient treatment; it is mechanical, it is surgery." (S. J. Meltzer.)

It is only fair to surgeons to call attention to the contributions they have already made to a knowledge of pure function along with an enormous aggregation of isolated facts of peculiarities, deviations, adaptations. The surgeon, more than any one, enjoys opportunities of noting the actions and appearances of living tissues beneath their enveloping structures. This privilege is peculiarly valuable when the brain, blood-vessels, or viscera are laid bare. Much could be learned by those physiologists who would carefully scrutinize the writings of acutely observing surgeons, and correlate the facts and conclusions; but obviously no adequate use has yet been made of the recorded material. It is the purpose of this brief communication to ask attention to a vast realm of possibilities afforded by what already exists, and to emphatically petition that a systematic use shall be made of these daily recurring opportunities.

Specialization has become so highly differentiated, the literature of medicine has grown so great, writing on the practical branches is limited to such well-defined fields that relatively little use is made of many collateral and even direct means of learning life's secrets. Secrets these vital processes are; physiology at present is in places provokingly inadequate. We do not begin to know as yet many of those facts which are most essential to an understanding of normal physiology, and our data on morbid physiology is still chiefly inferential. Many of the most important working axioms of clinical physiology are the products of intelligent deduction from phenomena occurring in sick people. To be sure, priceless data have come to us through experimentation on the lower animals, but none of these is comparable to observations made on man for the purposes of elucidating problems in clinical medicine.

It is not permissible to actually experiment on human beings, at least in such a way as shall involve exposing the subject to pain and peril of serious injury. Nevertheless it is only through, and by, observations on the workings of the human mechanism that we can learn the normal actions and the delicate degrees or variants from the strictly normal so essential in achieving knowledge of means to control, to check or repair, the effects of morbific damaging agencies.

Since we are inhibited from utilizing the bodies of human beings in pursuing those researches which, by common consent, are absolutely essential to a right understanding of the processes, sequences, and signficance of cellular activities and their variants, we must seize upon whatever occasions offer. Among the richest are the manipulations of the surgeon, particularly when the knife has opened the enveloping structures and permitted a view of actions of those structures which are thus exposed to eye or touch.

Nor does the matter end here. The phenomena of readjustment present endless important facts other than the mere accomplishment of the surgical purpose. It is a research in itself, worthy of a large monograph or perhaps a treatise, to note and compare the findings in patients some years after they have suffered surgical loss, in part or the whole, of vital organs.

Surgery has attained such perfection in methods and results, that the temptation is great to remove tissue, even organs, with perfect safety as to immediate results. We ought to know what effects are induced years hence, on structure, function, circulation, condition of the vessels, etc. The apparent gain may be outweighed later by greater ultimate harm. However, this brief communication can do no more than call attention to the vitally important subject; to beg that surgeons shall recognize that in the course of their daily work it is within their power to gather, observe, and record phenomena which, when judiciously collated and interpreted, will constitute a fund of information which may place them at the head of the contributors to the secrets of life, to arm the conservators of health so efficiently that a large gain shall be made in our control over those destructive influences which perpetually assail us.

Not being myself a surgeon I can only indicate a few of the departments of medical knowledge which have already been conspicuously illumined by the researches of surgeons, having in mind especially the physiologic facts presented.

Brain: motor functions, circulation, absence of motor phenomena in the so-called intellectual areas.

Spinal cord: many opinions regarded as settled changed radically, *e.g.*, the entire cord severed completely can yet be repaired (F. T. Stewart), infantile and other palsies relieved by nerve grafting, hence restoring connection with unimpaired motor centers; organs can be transplanted: kidneys, thyroid, spleen, etc.

Lymphatic channels and their connections: facts have been elicited which could be learned in no other way, most important as throwing light on infections and repair.

The great organs—stomach: it has been shown that the removal of the stomach induces relatively little disturbance, also portions of the intestines, especially the lower part may be excised and little derangement of nutrition follow. Surgeons enunciate the principle, practically the axiom, that when in doubt as to a disorder promising to be more than trivial, a functional disturbance, at once exploratory incision is demanded in (1) the stomach, duodenum, etc., (2) gall-bladder, (3) appendix vermiformis. The functions of the gall-bladder are made more clear by the surgeons than by all the physiologists; the amount of bile secreted, etc. Gall-stones unsuspected are commonly found in the gall-bladder; the presence of these goes far toward causing cancer of the liver. Cancers in the liver or stomach are largely due to the effects of gastric ulcers. The pancreas and its infections are shown by surgeons to be often secondary to inflammations of the gall-bladder.

The kidneys can be removed, opened, and transplanted, all which opens up vast physiologic problems.

The heart can be handled, operated on, massaged to restore its beat in such a fashion as would have been denied as possible by the physiologists of a short time ago.

A. Charrin (Sem. Med. xxv, Feb. 8, 1905) has reviewed the information learned of late in regard to the functions of the omentum, spleen, ovaries, and other organs by surgeons, pointing out that their removal is by no means such a simple, harmless matter as has hitherto been supposed. The cutting off of the secretions of certain of the great organs may, and undoubtedly does, produce profound alterations in the metabolic status.

J. Madison Taylor.*

Cyclopædia of Current Literature.

ABDOMEN, NEW METHOD OF EXPLORING THE.

The value of the various methods now in use of exploring the abdomen are pointed out by the writer, and attention is called to a new one devised by himself. Through the incision for exposing the gall-bladder and ducts it is his practice to see and feel all he can within a reasonable radius. It is not uncommon that appendicectomy can be performed through this incision without even extending it downward. In one instance he removed a stone in the right kidney through this incision. On the other hand, the bile ducts may be explored through the incision usually made to reach the kidney. This is done by making an incision through the peritoneum in front of the kidney, reaching inward to the gall-bladder, discovering gallstones, and removing them through a buttonhole incision made over the fundus of the gall-bladder as it is held by the exploring hand against the anterior abdominal wall. He has also removed the appendix through the lumbar incision for kidney work. Through an enlarged gridiron incision for appendicitis he has often removed small fibroids, shortened ovarian ligaments, bisected ovaries, and he has performed anterior transplantation of the round ligaments, salpingostomy, and hystero-salpingostomy before or after removing the appendix. In cases presenting the clinical evidences of both appendicitis and gallstones, he makes a "compromise incision" through the right rectus muscle opposite the umbilicus, of sufficient length to admit the hand, which easily reaches the gall-bladder and appendix respectively, and, if need be, the other organs within the abdomen.

In certain cases an examination of the abdominal organs would be highly satisfactory, although often the operator does not feel justified in opening through the abdominal wall for that purpose. The problem is solved in passing the hand and entire forearm into the abdominal cavity through the vagina. In order to furnish enough space for this purpose, it is imperative to cut through the mucous membrane of the vagina its whole length on each side postero-laterally. The mucous membrane being severed, the other structures stretch at once. The bare arm being smeared over with sterile vaseline, glides in with ease. A number of instances are cited in which this method of examination proved exceedingly useful. A. H. Ferguson (New York Medical Journal and Philadelphia Medical Journal, November 4, 1905).

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* Physician to the Philadelphia Hospital, etc.

ANÆMIA, DIAGNOSIS AND TREATMENT OF.

Anæmia is defined by the writer as a condition of the blood characterized by deficiency in the total or relative amount of hæmoglobin, or it may be a condition of the body resulting from an insufficient absorption from the blood of nourishment for the proper support and oxygenation of the body tissues. Accepting this imperfect definition as a basis, it appears that there are cases in which no discoverable defect in the blood can be found, but in which the disease seems to be localized in the inability of the tissues to properly absorb the substances contained in the blood. Of course this definition is subject to the greatest modification and correction, for, as yet, but very little is known of the obviously important chemistry of the blood, and what may now be considered a normal blood may be deficient in the most important of chemical requisites. Study of the blood and of the patient cannot fail, however, to demonstrate in a large number of cases the inadequacy of the usual condition, of deficiency in corpuscular elements and hæmoglobin only. There can be no question but that certain individuals require less corpuscles and less hæmoglobin than others of the same body weight, just as some persons thrive best on what would be a very insufficient diet for others. The important point which the writer wishes to make here is that we must not judge entirely of the presence or absence of anæmia by the volume and condition of the blood alone, but also by the function of the tissues which are dependent on the blood for their well-being. Thus 85 per cent. of hæmoglobin, with 4,000,000 red corpuscles, may be normal for one individual in apparently perfect health, and yet another person of the same body weight with this condition may suffer to a considerable degree from anæmia. Harlow Brooks (Medical News, October 21, 1905).

ASTHMA, THE FOOD FACTOR IN.

Hyperpyræmia, that is, accumulation of unoxidized carbonaceous material in the blood beyond the capacity of the physiological decarbonizing processes, is an essential factor in some cases of asthma; and in such the recurrent asthmatic paroxysms may be regarded as ultraphysiological, that is, pathological reinforcements of inadequate physiological decarbonization. But even so, hyperpyræmia is only one of many factors in asthma. For example, the asthmatic paroxysm depends upon the vasomotor response to hyperpyræmia; and this responsiveness of the vasomotor system may be vastly increased by numerous factors. When this is so, the vasomotor responsiveness (irritability) becomes a much more important factor in determining paroxysms, and consequently calls more urgently for therapeutic attack than the food factor. And there are many other factors to be considered. Hence it must not be inferred that asthma can always be successfully treated by diet of any kind. Nevertheless, the food factor is usually, if not always, present, and its due recognition will often make the difference between successful and unsuccessful therapeutics. For those who are inclined to make a trial of the treatment by restriction of the carbonaceous intake, the author would suggest that commencement be made with asthmatics with a tendency to corpulency. Indeed in such success is much more easily and rapidly attained. Francis Hare (New York Medical Journal and Philadelphia Medical Journal, September 23, 1905).

ATONY OF THE RECTUM AND COLON.

Atony of the intestine is a failure of the normal function of the muscle coat. The principal cause of normal peristalsis is the distention produced by the bowel content, whether that be fæces, or undigested food, water, gas, or air. Excessive or prolonged distention will result in exhaustion or fatigue of the muscle coat of the muscle wall. In experiments on dogs, prolonged and intermittent distention of the intestine with air results in the production of a toxin of fatigue, which produces atony and dilatation. Antitoxins generated by fatigue toxins are obtained which neutralize the action of the fatigue toxins, which normally occurs during the period of rest. Toxins of fatigue are not dialyzable, and remain where formed. Rubbing, massage, or gentle exercise hastens the union of the antitoxin with the toxin, resulting in recovery from fatigue.

The site of atony of hollow viscera is usually found in those organs used as reservoirs, such as stomach, colon, etc., because fatigue more readily occurs where the work is more apt to be in disproportionate excess to the rest period. The abdominal circulation is an important factor in relation to atony of the intestine. Venous blood predisposes to fatigue. The indications for treatment of atony are therefore: *(a)* The restoration of the chronic fatigue atony; *(b)* restoration of the congested vessels. Diagnosis, in connection with history and symptoms, can be made accurate by examination of fæces observed during colonic lavage, and the reaction of the colon to distention.

Drugs are useless as a cure; they aid certain symptoms, but ultimately increase the fatigue of the colon. Surgery does not correct the atony of the wall, though obstructions by tumors, etc., must be removed surgically. Treatment by general gymnastics is only indirectly helpful. They may lengthen the abdominal muscle, but do not increase peristalsis, or correct the atony of the intestinal wall. All methods of treatment usually resolve themselves into some form of mechanical treatment. In dietetics, coarse-grained food; cathartics producing excessive fluids. Drinking large quantities of water; gymnastics; exercises.

Enemas of water are useful for the purpose of cleansing out the colon, as they excite peristalsis by distending the colon, but do not correct the atony, on account of the resulting fatigue. They rather tend to create the enema habit, and increase the atony. Colonic lavage with temperature, as described by the author, is useful. Injection of air directly is helpful, but in atonic colicky condition retention of air follows, and may result in increased fatigue or atony. This is, however, a useful method if the air is removed through the tube by pressure and massage upon the abdomen. By confining the air in the bag, and the rubber bag in the bowel, the degree of exercise by distention is under the direct control of the operator. Intermittent distention of the bags in the rectum or colon for a short period gives sufficient exercise and massage of the muscle wall to gradually restore the atony and fatigue of the muscle to a condition of normal peristalsis. If the colon is partly distended with air, then the rubber bag inserted into the rectum or sigmoid, with intermittent compression of the Politzer bag, causes vibration of the air in the entire colon to the rectum. The massage effect gives a valuable mode of treating various pathological conditions of the rectal mucosa—hæmorrhoids, ulcers, proctitis, etc. It is useful in prolapse of the bowel; associated pathological condition of the pelvic viscera; in certain diseases of the uterus and appendages, in the female; and prostate, in the male. The results have shown the restoration to be permanent. F. B. Turck (Medical Record, October 7, 1905).

BERIBERI.

Beriberi is an acute or subacute infectious disease of short incubation period, due to a specific micro-organism not yet isolated. This specific organism is not one whose special habitat is a particular food, such as rice or fish, but one that may nevertheless be ingested with any food or drink accidentally contaminated. This organism, having gained entrance to the alimentary canal, multiplies in the contents and mucosa of the stomach and small gut, but chiefly in the contents and mucosa of the pylorus and duodenum. It there elaborates an extracellular toxin, which, being immediately absorbed, poisons the peripheral terminations of, first, the vagi to the stomach and heart, and then other efferent, afferent, and autonomic neurones to different extents and degrees, giving rise to groups of symptoms which may be broadly classified as acute pernicious, acute, and subacute beriberi. These cases run a definite course of about five or six weeks, and on the elimination of the causal organism and its toxin the poisoned neurones recover and the patient recovers, or the poisoned neurones only partially recover, and there develops in those of them which migrate centralward. For this persistent atrophy, and the various paralyses, atrophic disturbances, and œdema which result, the author proposes the term "beriberi residual paralysis."

The factor of diet cannot be ignored in beriberi. Grave suspicion is attached to the practically constant presence in mouldy rice of a certain small weevil (calandra olyzæ). The incidence of beriberi is distinctly heavier in those tropical or subtropical countries which import rice than in those which supply sufficient on the spot to meet all local demands. Naturally in the former the opportunity for degeneration in transport is greater. Fungoid or moldlike growths, similar to those of rice, have been observed on maize and dried fish—so that these articles of diet could also carry the disease. H. Wright, C. Hose, F. W. Mott (British Medical Journal, October 28, 1905).

BLOOD COAGULABILITY.

By testing the coagulation time of the blood, the authors have determined the effect produced by various calcium salts and cows' milk. Their investigations show that the coagulability of the blood is increased by the ingestion of milk, and this effect is associated with the presence of large quantities of calcium and magnesium salts in the blood. It follows that milk is much more than a food-stuff, it being also a medicinal agent, and as such may be either prejudicial or beneficial. For instance, milk may be given with advantage in cases of hæmorrhage, aneurism, physiological albuminuria, and the œdema of Bright's disease. But every adult patient placed on a dietary of milk is thereby brought into a condition which predisposes to thrombosis. Typhoid fever is an example of a disease in which milk diet is commonly prescribed, and in which thrombosis frequently occurs.

A rapid increase of blood coagulability such as is desired for the arrest of actual or serious hæmorrhage can, unless a person whose power of absorbing calcium salts is deficient is dealt with, be achieved by the administration of a single 60-grain dose of either calcium lactate or calcium chloride. Success in maintaining the blood coagulability at a high level involves adjusting successive doses of calcium salts in such a manner as to avoid introducing into the blood such excess of these salts as would effect a retardation of the coagulation time. Where calcium salts are not absorbed when given by the mouth they may be given hypodermically. For such use the maximum concentration of the salt should be a 1 in 20 solution. It is possible to dècalcify the blood and diminish blood coagulability by the administration of citric acid. But such decalcification is followed after a time by an increase in the calcium salts of the blood. A. E. Wright and W. E. Paramore (Lancet, October 14, 1905).

CATARACT, IMMATURE.

The principal objection to the extraction of immature cataract has been that, in the attempt to remove a lens not entirely opaque more or less of the cortex remains, which adheres to the capsule and is difficult, if not impossible, to remove without subjecting the eye to trauma, which later gives rise to inflammatory reaction and jeopardizes the function of the eye, and if allowed to remain will either produce secondary cataract, with attending impairment of vision, or inflammatory reaction, with danger of damage to the function of the eye, or both. In considering the advisability of attempting extraction the factors to be considered are: the state of vision in the fellow eye; how rapidly the cataract is progressing; how seriously the patient will be inconvenienced if he waits for maturity; what contraindications are there to the extraction, even though immature. No extraction of an unripe cataract is warranted when the fellow eye has vision sufficient for the patient's needs. It is particularly contraindicated in a lens swollen by imbibition, attended with shallow anterior chamber and sluggish pupil from an irritated iris. Successful results from the extraction of unripe cataract must come from the adoption of methods which make it possible to remove, at the time of operation, practically all the cortex, with a minimum amount of trauma and subsequent inflammatory reaction, and the employment of treatment to limit reaction and promote resorption of any retained cortical substance. The operative essentials to bring about the result are: a large corneal section, not less than two-fifths of the corneal circumference; an iridectomy with a fairly large coloboma extending to the ciliary border; a large opening in the capsule by two incisions at right angles to each other; gentle irrigation of the anterior chamber with a sterile normal salt solution; the early and free use of atropine and the use of dionin after the corneal wound has closed. A. E. Bulson, Jr., (Journal of the American Medical Association, September 23, 1905).

CELLULAR ELEMENTS OF COLOSTRUM AND HUMAN MILK.

The authors publish the results of a research undertaken to determine the actual source of the colostrum corpuscles present in human milk, whether from leucocytes or from epithelium. They examined milk and microscopic sections of breasts in various stages of activity, and performed several experiments on animals. As a result they are able to form various conclusions, which lead off with a confirmation of the fact already known that various cellular elements appear in the milk, differing according to circumstances. Leucocytes, especially polymorphonuclears, appear when lactation is stopped, probably exercising a resorptive function. Colostrum corpuscles are especially noticeable where lactation is slowed down, while in the milk of a fully-secreting breast cellular *débris* in the form of "crescent bodies" are found. Though, however, the presence of leucocytes in human milk was clearly established, examination of the milk alone did not suffice to determine whether colostrum corpuscles are derived from them or from epithelial elements. The examination of sections of breasts of women dead immediately before or after delivery, and of newly-born infants' breasts, was accordingly undertaken with the result that on the one hand leucocytes were observed around and within secreting acini, apparently converting themselves into colostrum corpuscles by the ingestion of droplets of milk, while on the other hand there was a close identity of form between colostrum corpuscles and the secreting epithelial cells. Believing, therefore, that the leucocytic origin of the colostrum corpuscles was proved while the epithelial origin was also probable, the authors employed an ingenious experiment in order to examine the latter point. The serum of animals which have been inoculated with milk has been shown by von Dungern and others to contain a substance specifically toxic to epithelium; the authors found that such a serum invariably agglutinated a part of the cellular elements of the colostrum, while a normal serum had no such effect. This confirms the supposition that the colostrum corpuscles are in part derived from epithelium. To further establish the origin of the other part from leucocytes, it was shown that milk injected into the peritoneal cavity of animals was taken up by peritoneal macrophages, forming cells exactly like colostrum corpuscles. Wallich and Levaditi (Annales de l'Institut Pasteur, May, 1905; British Medical Journal, September 30, 1905).

CHOLECYSTITIS.

Cholecystitis, if subacute or chronic, should be subjected to early operation. Early operation reduces the operative mortality rate. The cases of primary cancer of the gall-bladder and ducts will be greatly reduced by early operation. If a probability of cholecystitis exists, an exploratory incision should be made, and if it is found, the operation continued. R. W. Hardon (American Journal of Surgery, October, 1905).

COLITIS, MEMBRANOUS.

The writer gives an account of 60 consecutive cases of membranous colitis seen by him. Various names have been given the affection—the most accurate is mucomembranous enterocolitis. Inflammation is not necessarily present; the colon is so disordered that the mucus secreted by it is passed from the anus in the form of a membrane. The disease is commoner among the upper classes than among the poor. Of the 60 cases 51 were women and 9 men. The disease rarely comes on under 20 years of age, and usually first shows itself between the ages of 20 and 30 years. Only infrequently is it found to begin over the age of 45 years. Of the 60 cases, 8 have been known to be fatal, and in none of these was death due to colitis. Of the remainder 21 recovered and 6 improved greatly. The 25 that did not recover were all women, they suffering much more severely from the disease than men.

The chief symptom is the passage of membrane; if the mucus is passed soon after its formation, it is glairy like the white of an egg. Nearly all the patients are constipated, but diarrhœa may alternate with the constipation. Patients affected with a severe degree of the disease sometimes pass intestinal sand. This is usually of a red color, rather duller than the common deposit of uric acid in the urine; sometimes it is white or light brown with dark patches intermingled. In severe cases there is much abdominal pain; it may be dull and constant, or there may be paroxysms of very severe pain in the center of the abdomen, causing the patient to writhe in agony. The paroxysms are usually relieved by a passage of the bowels. Usually there is some abdominal tenderness. The tongue is usually coated with a white fur, and there is flatulence and anorexia. Enteroptosis is frequently associated with mucous colitis. Affections of the organs of generation are common, occurring in 21 out of the 51 female patients. It is needless to state that the majority of patients are nervous, neurasthenic, hypochondriacal, hysterical individuals. Many authorities regard the disease as being primarily a nervous disorder with an excessive secretion of mucus from the colon. Others, among them the author, consider it a local affection, probably due to constipation.

By far the most important part of the treatment is to keep the large bowel empty; in many cases castor-oil by mouth will cure the patient. It should be given early in the morning as soon as the patient wakes. If the oil causes nausea, magnesium sulphate may be given instead, or calomel over night. Should these fail the large intestine should be washed out with plain water at a temperature of 100° F., a pint or more being used at a time. Intestinal antiseptics are worse than useless. If diarrhœa is present it should never be checked by astringents; castor-oil is the best treatment. W. H. White (Lancet, October 28, 1905).

DEGENERATION OF THE HEART.

The venous pulse is of the ventricular type in the majority of those cases of so-called "chronic myocarditis" in which there are signs of cardiac disability—namely, palpitation, dyspnœa, irregular pulse, and diminution of the area of cardiac response.

This abnormal inception of the cardiac rhythm, as demonstrated by the ventricular type of the venous pulse, can and does frequently occur irrespective of myocardial degeneration. The paroxysmal tachycardia met with in a boy aged 6½ years is a case in point, where there were no grounds for assuming the existence of any myocardial degeneration. The dilatation of the heart, the cardiac distress, the irregular action, and the diminished area of cardiac response were all secondary to the onset of the tachycardia, and disappeared almost as suddenly as they had appeared on the heart resuming its normal mode of action.

The conditions are not known which alter the excitability of the musculature of the auricular canal and adjoining portions of the ventricle. It is probable that changes in the nutrition of the myocardium act in this manner. The onset of marked symptoms is largely independent of the myocardial degeneration, but is synchronous with the onset of the abnormal inception of the rhythm. This rhythm, with its consequences, sometimes occurs in the absence of any evidence of myocardial degeneration. The heart's action is always inefficient in the presence of the ventricular rhythm, whether myocardial changes be present or not. John Hay (British Medical Journal, October 21, 1905).

DIGITALIS TREATMENT, REMARKS ON.

The writer states that for many years there has been a strong desire among physicians to have the active principle of digitalis isolated from those responsible for the poisonous effect of the drug. A number of digitalis alkaloids, etc., have been isolated. Schmiedeberg found four main principles: digitonine, or soluble digitaline, insoluble digitaline, digitaleine, and digitoxin. His crystallized digitoxin is soluble only in chloroform and alcohol; it irritates the stomach very much, and, subcutaneously, causes painful infiltration or local necrosis. The glycoside digitaline crystallisée of Nativelle was recommended by Potain and Huchard. The latter uses it whenever he prescribes a digitalis preparation. The writer states that his experience with it is limited, but many authors believe that digitaline Nativelle is not the chief principle of digitalis.

We must have the active principle of digitalis as *one* chemical body which must be constant in composition and effect. It must contain all the valuable properties of the fresh leaves. We need this pure principle as a standard, we must be able to note our experiences from a standard measure in our histories, even if, afterward, we can treat our cases with our empirical doses of the powder. We should be able to buy digitalis leaves of a known strength, after samples of the powder have been analyzed for a percentage of pure principle. The pure isolated principle should be "injectable" and non-irritating. All of these requirements seem to be fulfilled in a new product, the soluble digitoxin, published by Dr. M. Cloetta, professor of pharmacology at the University of Zurich. A number of authors like Naumyn and Kottmann (Münchener medicinische Wochenschrift, No. 31, page 1413, 1904), Senator and Bibergiel (Berliner klinische Wochenschrift, No. 51, 1904), and Klemperer (Therapie der Gegenwart, 1904) make favorable reports of their experience with this digitoxin. Good results were obtained by the writer from extensive tests. It was tried under almost any condition in which digitalis is indicated: in all sorts of muscular insufficiencies of the heart, in chronic valvular troubles, in arteriosclerotic heart disturbances, and in nephritis;. also in acute diseases like pneumonia, typhoid fever, etc. The desired digitalis effect was obtained several times by injecting digitoxin into the muscles of patients who had already been given powdered digitalis, or fluid extracts per os, without any other result than that of nausea.

The writer found Cloetta's digitoxin superior to the digitaline and other digitoxins which are in the market. It can be used wherever digitalis is indicated. Per os it acts much more quickly than the powder, hypodermically (deep into the muscles) in a few hours, intravenously at once. It is not cumulative and its effect is not as lasting as that obtained from the powder. But the effect once reached, can be kept by continued small doses. Its chief advantage is that it can be given hypodermically without much pain and without danger of infection, and that, in emergency, it can be injected into the veins with almost instant effect.

The single dose of Cloetta's digitoxin is $^1/_3$ milligram, corresponding to 0.1 digitalis. This dose can be given three times a day, or oftener per os, or as an injection. In emergency, for instance, in acute dilatation of the heart, the writer has given $^2/_3$ milligram by injection three times a day for several days in succession until the danger was passed. He considers its use a safeguard in general anæsthesia. Fritz Schwyzer (Medical News, November 18, 1905).

ETHYL CHLORIDE.

Ethyl chloride occupies a position as an anæsthetic about midway between nitrous oxide and ether. It is, as would be expected from its composition, more toxic than the former, and when used in properly selected cases, nearly as safe as the latter. Nitrous oxide, as regards safety, is still in a class by itself, and where it can be administered, it should be used. Ethyl chloride should be used rather to replace chloroform and ether in certain cases, *i.e.*, for short operations needing longer and deeper anæsthesia and greater muscular relaxation than is afforded by nitrous oxide alone or mixed with oxygen. As a preliminary anæsthetic, it is unequaled. In cases where there is much thickening of the tissues of the neck, or any suspicion of laryngitis, or œdema of the larynx, or narrowing of the air-way beyond the mouth, it is contra-indicated. The vapor, if concentrated, may originate spasm of the larynx, especially when inflamed; it certainly causes increased vascularity of mucous membranes. The mortality is about 1 in 10,000 cases.

The most serious after-effect is collapse, occurring principally after a single full dose in which no air has been allowed. The gas is inflammable and should not be administered near a light. The best apparatus is a bag inhaler of wide bore which can be used for ether if the ethyl chloride be insufficient or unsatisfactory. The patient should be told to breathe very quietly and no air is needed until snoring begins, as there are fewer after-effects when narcosis is quickly produced. A too small bag causes headache and even collapse, from the carbon dioxide and other impurities. W. J. McCardie (Lancet, October 7, 1905).

FLOATING KIDNEY: SURGICAL TREATMENT.

Floating kidney may produce important symptoms, symptoms having a real physical explanation, of which interference with the gastric and hepatic functions are especially noteworthy. The "neurotic condition," which is so often found in the subjects of floating kidney, is largely the result of such symptoms long continued, and is to be avoided in many cases by early fixation of the organ. While a truss or belt pressure may undoubtedly suffice in slight cases, nephrorrhaphy is the most certain method of treatment. Nephrorrhaphy is superior to "Senn's gauze method," being safer, more effectual, and involving a shorter period of convalescence. Kangaroo tendon is admirably adapted for nephrorrhaphy, the use of silk being attended with the risk of causing tedious sinuses. J. Hutchinson (Clinical Journal, October 25, 1905).

FRACTURE OF THE SPINE.

Fractures of the spine may well be divided into two classes: first, fractures of the spine with injury to the cord; and, second, fractures of the spine without injury to the cord. It is not best to decide what the treatment of an individual case of fracture of the spine should be from the statistics, because the lesion varies so widely. In many cases it is impossible to primarily state whether the cord is crushed or pressed upon by bone, blood, or exudate, except by an open operation. Only by the *persistence* of total loss of reflexes, complete insensibility to touch and pain, and motor paralysis below the level of the lesion, can total transverse destruction of the cord be diagnosticated. If pressure on the cord is allowed to remain for many hours, irreparable damage to the cord may take place. Unless it is perfectly clear that the cord is irremediably damaged, an operation to establish the condition of the cord and to relieve pressure is imperative as soon as surgical shock has been recovered from. In certain cases of fracture of the spine, when the cord is not injured but is liable to injury from displacement of the fragments of a vertebra, rectification of the deformity and fixation of the spine may be used. If the cord is crushed, no matter what treatment is adopted, there will, of necessity, be a high rate of mortality. H. L. Burrell (Annals of Surgery, October, 1905).

GONORRHŒA, LACTIC ACID IN.

The writer states that lactic acid injection does cure gonorrhœal infection and has no ill after-effects. It stops the spreading to the endometrium of the body of the uterus in acute cases if treatment is started soon enough. Ordinary douches and painting of the cervix can give only temporary relief. It is better to destroy the cervical glands, and this should be done as soon as the diagnosis is positive. An examination should be made, not only of the discharge, but, if necessary (when that examination is negative), of the cervical membrane, with its glands. Most of the chronic discharges are due to retained gonococci. It is possible to cure this discharge by injection by this method into the cervical glands. Cervical infection is always possible in gonorrhœa in the female, but by prompt action, tubes, etc., may be spared future disease. So far lactic acid used by this method is the best drug for injection. A too deep injection of the lactic acid may cause a slough, which, while not dangerous, is, to say the least, annoying, and lessens the good results which should be obtained from said injection. Swithin Chandler (Journal of the American Medical Association, October 7, 1905).

GYNÆCOLOGY, CONSERVATISM IN.

The author states that the greater the number of ways devised for utilizing the normal uterine ligaments for its restoration and retention in its normal position the better, so long as they are rational and safe, and considered as supplements to, instead of substitutes for, each other. Every surgeon, whether specialist or general practitioner, intending to operate in such cases owes it to his profession and to his clientelle to familiarize himself with all known methods and to be prepared to use any, or all, or to modify any or all of them to meet the demands of each individual case.

The skill and time required to utilize the natural ligaments are not excessive. The formation and utilization of adventitious ligaments within the abdomen should be reserved for cases manifesting special indications. The operations of ventral suspension and fixation should not be performed because of their ease by pseudo-surgeons who could not competently operate by using the natural ligaments.

The individual case should determine the method for each tracheloplasty or cervical amputation for the relief of laceration. Only principles, not details, can be definitely described for the plastic repair of the lacerated perineum. Plastic surgery is minor only in its danger to the patient's life. The conservation or restoration of normal pelvic anatomy is the highest function of the gynæcologist. D. H. Craig (Journal of the American Medical Association, November 18, 1905).

HEADACHE IN CHILDHOOD.

The frequency with which headaches occur in children under 5 years of age, as well as in quite young infants, is pointed out by the writer. He considers it to be more frequent among upper-class children, and maintains that the cause of the headache is not sufficiently investigated, as it is a symptom of many organic and functional diseases. Acute headache, accompanied by a rise of temperature, is usually a prodromal symptom, indicating the onset of infectious or toxic diseases. In tuberculous meningitis the intensity of the pain is disproportionate to the amount of fever; it is more constant than intense, and does not vary with change of position, but there is a desire for rest and quiet. An acute headache not accompanied by vomiting excludes meningitis; when accompanied by an irregular and slow pulse, it indicates meningitis.

Chronic headache, which may continue for three or four months, has many causes. He considers rapid growth an important one. It is frequently met with in boys about 9 to 11 years who are growing fast; it is generally frontal and occurs in the morning; it is accentuated by work and improves with rest. Such children often complain of vague pains, commonly in the knees; he has seen them suffer from epiphysitis and from cardiac hypertrophy; they are always nervous. Rest and tonics should cure these headaches; they generally tend to disappear when growth ceases.

Excessive fatigue, either physical or mental, will produce headache in children; it is usually found among school-children, and is quite as frequent in slow and backward ones, to whom mental work is an effort, as it is among the more clever. Among other causes the author notes defective vision, especially errors of refraction; naso-pharyngeal obstruction, otitis, and carious teeth. Children of all ages suffer from anæmia with its characteristic symptoms and headache. Auto-intoxication is a very common cause; it arises generally in the gastro-intestinal tract, and may be due to disease or constipation, or to the presence of parasites. In such cases careful regulation of the diet and bowels will give a favorable result.

After infectious fevers, an unsuspected nephritis may be the true source of both anæmia and headache; the pain may be the forerunner of an attack of uræmia. External causes of intoxication should not be overlooked; they include drugs, and the poisoning by lead or carbolic acid gas. Malaria tends to show itself only by periodical attacks of headache without fever. It is neuralgic in character and usually supra-orbital; it may be accompanied by a rigor and an enlarged spleen. The author finds that hemicrania is not infrequent in young children, and is often associated with other rheumatic affections. Finally, he deals with organic cerebral lesions, cerebral tumors, and syphilis, which are always accompanied by characteristic symptoms. Cattaneo (Clinical Medicine, September 13, 1905; British Medical Journal, November 4, 1905).

HYPERTROPHIED PROSTATE, CHOICE OF METHOD IN OPERATING UPON THE.

The writer states that we have to-day three useful methods for the operative relief of prostatic obstruction, *i.e.,* suprapubic and perineal prostatectomy and galvano-caustic prostatotomy (Bottini's operation). Unassailable proof has been furnished to show that all three methods deserve to be recognized as standard procedures, each being capable of bringing permanent relief.

Wherever the patient's condition, irrespective of age, seems to warrant it, prostatectomy should be done, since the total removal of the mechanical obstruction naturally represents the most surgical procedure.

While it is true that either method, perineal or suprapubic, can be successfully employed to the exclusion of the other in removing the hypertrophied prostate gland, it certainly means facilitating the work and is in the interest of the patient if both procedures are used, the one that seems best suited to the particular case being chosen in each instance. The selection of the route, on strict indication, is not an easy matter at present. Further reports by surgeons practicing both procedures are needed to decide the question. Both methods are excellent and useful ones. The choice up to the present time is largely a matter of individual inclination. On basis of his present experience, the writer thinks he is warranted in saying that *(a)* glands palpable per rectum and rising not far from the sphincter ani muscles can be advantageously attacked from below. *(b)* If situated higher up and if the growth projects well back into the bladder, they should be enucleated from above, all the more if the cystoscope has shown the presence of a median lobe. *(c)* A hypertrophy of soft character in the early stages, so frequently found to be made up of a number of smaller nodules, each of which can be enucleated by itself, is best attacked from below. *(d)* In the 33 per cent. of cases in which no tumor is palpable per rectum, but in which vesical enlargement is recognized by the residual urine or total retention, and seen distinctly by means of the cystoscope to be the obstructing cause, the suprapubic route deserves the preference. *(e)* If the enlargement be complicated by a vesical calculus or calculi of larger dimensions, too large to be easily extracted through the dilated internal sphincter muscle, the suprapubic route is indicated. *(f)* If patients with very foul urine, where immediate drainage of the bladder is imperative, the suprapubic incision should be chosen. The gland may then be removed at a second sitting. *(g)* The comparatively frequent appearance of carcinoma of the prostate may prove to become an important factor in deciding in favor of complete removal of the gland from above.

The question of the preservation of sexual power is an important one. Further experience and investigation are needed to definitely determine whether there is any difference in results as to this point between the two methods of operation. As it seems to-day, the suprapubic operation is superior in this respect to the perineal method, even though in the latter the portion of the gland immediately surrounding the prostatic urethra and the ejaculatory ducts have been preserved. If future statistics should prove that with suprapubic prostatectomy the sexual function is more frequently preserved than with the perineal procedure, this must necessarily decide the choice of route in patients in whom this point has still to be considered.

If operation with the knife be refused, or there be contraindications to such intervention, Bottini's operation is in order. Only if this operation, too, be refused or impossible are we justified in relegating a patient to the regular use of the catheter.

Cystoscopy is absolutely necessary before doing Bottini's operation; it should also precede perineal prostatectomy in order to determine the presence or absence of a median lobe and calculi; it may be dispensed with if the suprapubic operation has been decided upon, although a previous, distinct knowledge of intravesical conditions must be welcome to the operator. In that 33 per cent. of prostatics who present no enlargement on rectal palpation, the cystoscope alone can establish a distinct and refined diagnosis.

The time for operation, at least in the rank and file of prostatics, has come when regular catheterization has become imperative. The catheter should never be entrusted to them for regular use. Well-to-do patients, being in a position to take the time and care necessary for the carrying out of self-catheterization on aseptic principles, may be allowed to do so if opposed to operative intervention. Another strict indication for operation is persistent severe pains in the perineum, neck of bladder, and glans penis, resisting ordinary treatment.

Surgeons should familiarize themselves with perineal and suprapubic prostatectomy as well as with galvanocaustic prostatotomy (Bottini's operation), in order to be able to do justice to the prostatics entrusting themselves to their care, for no one method of operation can be employed in all cases of prostatic enlargement to the best advantage of the patient. In other words, the operation must be selected that suits the case. Willy Meyer (Medical Record, October 7, 1905).

INTRAPERITONEAL TUBERCULOSIS.

Intraperitoneal tuberculosis is frequently a local disease, probably occurring much more frequently in the female than in the male. In a large majority of cases it is primarily visceral, and the general peritoneum is secondarily involved. The surgical treatment is rational, sometimes agreeably surprising in results, and again bitterly disappointing. In this, as in many other surgical conditions, early diagnosis and early operation will bring more certain results.

In this condition the greatest obstacle to overcome is the idea that it is a secondary condition. No case of intraperitoneal tuberculosis should be denied the benefits of operation, no matter how extensive, so long as there is no positive pulmonary or pleuritic involvement, for the reason that some apparently hopeless cases fully recover. When there is a tubercular peritonitis, a sequel of tubercular tubes, ovaries, or appendix, the primary focus should always be removed. In these tubercular cases the mesenteric glands have not been found frequently involved, and when they are, operation accomplishes very little good.

In tuberculosis of tubes and ovaries, the adhesions are usually firm; sometimes, though not usually, very vascular, and not infrequently involve loops of the small intestine; hence the greatest care is necessary to avoid serious injury to bowel, and at the same time separate completely all adherent surfaces and provide complete drainage. Drainage is the great factor in recovery, when properly carried out. F. F. Lawrence (Surgery, Gynæcology and Obstetrics, November, 1905).

INTUSSUSCEPTION IN INFANCY AND CHILDHOOD.

As a result of a study of several cases of his own and of 1028 cases collected from literature, the writer comes to the following conclusion as to the treatment of intussusception, a prompt recognition of which and early diagnosis is most important: No food should be given, and purgatives must be absolutely prohibited. It may be wise to give some sedative, such as opium. Irrigation may be tried once or twice under proper conditions and in selected cases, but it should always be accompanied by preparation for immediate laparotomy in case of failure, and should always be carried out under complete anæsthesia. Hot salt solution or plain water may be used under a pressure of not more than three feet, the fluid being allowed to remain in the bowel not less than ten minutes. Irrigation should not be employed after a previous complete or partial reduction, and it should not be used in acute and severe types of disease which result in early destruction of the bowel. It should not be used where the temperature is subnormal or septic symptoms are pronounced, as these are signs of gangrene and ulceration. Laparotomy should follow failure of irrigation without delay, and there should be an attempt at reduction of the bowel from below upward. In irreducible cases the bowel should be resected; in selected cases, or where this is not feasible, resection with end-to-end anastomosis should be attempted when the patient's condition makes it practicable. An artificial anus or simple packing about the bowel requires a secondary and only too frequently fatal operation. J. H. Hess (Archives of Pediatrics, September, 1905).

LARYNGEAL AND PULMONARY TUBERCULOSIS, REST IN.

The great benefit derived from the non-use of the voice, according to the writer, is so striking that no one can fail to appreciate it who watches the progress of the case. It is not alone in cases of laryngeal tuberculosis that complete rest of the larynx and pharynx is indicated. In ordinary pulmonary cases efforts to phonate excite hypersecretion and contraction of the laryngeal muscles. Complete cessation of phonation, therefore, will lessen the amount of cough and consequent prostration, hyperpyrexia, etc. Rest, either partial or complete, should be paramount in all these cases. W. P. Porcher (American Journal of Medical Sciences, September, 1905).

LEUCOCYTES, EXAMINATION OF, AS DIAGNOSTIC AID.

A thorough appreciation of the exact significance of leucocytosis will not be possible until the mode of origin of the various forms of the white blood cells and their relationship to each other have been definitely determined. Nevertheless, study of these cells in the various diseases and pathologic conditions has demonstrated beyond a doubt that their determination is of real practical help in the diagnosis and prognosis of disease.

There are only a few diseases in which an absolute diagnosis can be made from the blood examination alone; in the vast majority of cases the condition of the leucocytes aids in making the diagnosis; in many cases, however, it is an important point without which the diagnosis would be even more incomplete than, of necessity, it is often forced to be. Thus, the study of the leucocytes has rendered possible the diagnosis of a certain number of diseases, as the leukæmias and trichinosis, besides rendering marked assistance in the diagnosis of others, as tuberculosis, typhoid fever, pneumonia, and various inflammatory and suppurative conditions. It tells much in regard to the prognosis of all forms of infection and inflammation. It has aided in discriminating diseases presenting clinical pictures markedly alike, such as central pneumonia and typhoid fever, appendicitis and conditions simulating it, but of entirely different origin, peritonitis and gastro-intestinal auto-intoxication, lymphatic leukæmia and Hodgkin's disease, myelogenous leukæmia and Banti's disease, measles and scarlet fever, etc. It has provided the surgeon and gynæcologist with a ready means of determining, in the first place, whether or not he is dealing with inflammatory or suppurative processes; in the second place, whether the process is diminishing or increasing, while in the third place it tells him much, if he can but read the figures aright, regarding the prognosis of his cases. Leucocyte counting, the writer believes, has not and never will reach the point at which it and it alone will furnish an absolutely correct diagnosis and prognosis, but in the past it has been a great, and it will be in the future an even greater, help to the physician and surgeon who values correctly its possibility and its limitations. T. R. Brown (American Medicine, November 4, 1905).

MASTOIDITIS, ACUTE, INDICATIONS FOR OPERATING IN.

The indications for operation in acute mastoiditis are summarized by the writer as follows: (1) Sudden cessation of the aural discharge, other symptoms persisting, with deep-seated pain in mastoid region. Marked sensitiveness to pressure on the mastoid over an area extending well beyond the limits of the antrum. (2) In the absence of fever, the above symptoms, unless yielding promptly, *i.e.*, in from twenty-four to forty-eight hours, to abortive measures. (3) Marked tenderness over the antrum, persisting from four to five days after free incision of Shrapnel's membrane. (4) Marked variations in the quantity of pus discharged; its maximum flow being apparently too great to be explained by the tympanic lesion; its period of diminution being coincident with the development of mastoid pain or tenderness. (5) Mastoid tenderness having been present and having disappeared, a discharge from the tympanic vault, which resists all rational non-operative measures. (6) Finally, evidences of mastoid involvement having been present, the development at any time during convalescence of symptoms of septic absorption. P. D. Kerrison (Medical Record, October 28, 1905).

MYOPIA, CAUSE OF PROGRESSIVE.

Myopia is a result of deficiency of the posterior half of the sclerotic generally due to absence or poor development of the elastic fibers, which normally are very abundant. The lateral pressure exerted by the external muscles of the eye will cause a bulging of the posterior pole, as a result of which the sagittal axis will become longer. The thickness of the sclerotic is also of importance, since a thin layer will hasten, a thick one retard, the process. The stretching of the sclerotic at the posterior pole will also cause tension of the internal tunics, hence diminished visual acuity. This tension may, however, be also due to deficiency of the circular portion of the ciliary muscle. In this case the longitudinal fibers will cause tension during accommodation. According to the author, all three defects (absence of elastic fibers, thin sclerotic, deficiency of circular muscle fibers) are congenital and inherited, and all three, or the first and second, are responsible for progressive myopia. Proper glasses will not prevent, but may inhibit, the process. G. Seggel (Münchener medicinische Wochenschrift, June 20, 1905; Medical News, September 30, 1905).

NASO-PHARYNGEAL ADENOIDS.

The obstructive and non-obstructive adenoid tissue, when diseased, is a menace to health, hearing, mental and physical development, and should be radically dealt with. It is far more serious in effects than disease and enlargement of the faucial tonsils. Frequently, when the pharyngeal tonsil is thoroughly removed, the enlarged faucial tonsils rapidly assume normal size and function. While this is not the rule, the writer states that he has seen it occur so frequently that he considers it safe to say it is far more than the exception to the rule.

The question is frequently asked, do these growths recur? Occasionally they do, especially in the so-called lymphatic and neurotic temperament. The more delicate, undeveloped, and poorly nourished or overfed the child, the more apt are we to find a recurrence. Whether this is strictly a recurrence of the development of some tissue not removed is still an open question. For these reasons, in cases like the one just referred to, alterative tonics should be given at intervals for some months after operating.

As to the method of operating, the author thinks it safe to predict that it will not be long before the forceps will be entirely discarded and the curette and finger alone will be relied upon. Also that the position of the patient will be on the side instead of the back, so as to eliminate much of the danger of suction of blood into the larynx and the prevention of swallowing blood and growth removed, thereby preventing much of the nausea generally attributed to the anæsthetic. The writer states that he knows of no operation so far reaching and productive of greater good, in that, while it is immediate in its results, it is also preventive of so many serious conditions.

The technique of adenectomy is simple as compared with many other surgical operations, but should be just as conscientiously carried out. When the proximity of the growth to the brain and meninges, the nasal accessory sinuses, the communication with the ear through the Eustachian tube is concerned, especially the danger of injury to a bulging orifice of this tube, to say nothing of the very delicate and vascular location of the growth, the operation cannot be considered a simple or trivial one. A third tonsil or adenoid cannot, with safety, be hurriedly scraped or jerked out without serious risk to the patient and to the reputation of the operator. When carefully and thoroughly done, the time consumed, while short, the risks and responsibilities involved, and the results obtained, are only equaled by some of the so-called major operations done by the general surgeon. J. A. Stucky (Cincinnati Lancet-Clinic, October 14, 1905).

OBESITY, TREATMENT OF.

The authors endeavor to emphasize the importance of the chlorides in the urine in the obese. Their experimental investigations show that treatment with saline mineral waters causes no appreciable difference in the chlorides, and also that the weight of the obese is not reduced by a considerable diminution in the quantity of food taken. A dry diet (relatively free from fluids) dehydrates the tissues, and therefore concentrates the chlorides, the serum, and the lymph. It may consequently have a very bad effect upon the heart and kidneys. In other words, such a diet, though now quite in vogue, is dangerous, painful, and ineffective. On the other hand, the ingestion of a normal or even abundant quantity of fluids, with abstinence from chlorides, may produce durable and regular results. With such a diet the elimination of chlorides proceeds regularly. This, therefore, should be one factor in the regime of the obese, while proper restriction and regulation of the food the other. H. Labbé and Furet (Revue de Médécine, September, 1905; New York Medical Journal and Philadelphia Medical Journal, November 18, 1905).

PAROTITIS, SECONDARY.

Secondary parotitis is an acute inflammatory affection of the parotid gland, which is characterized and distinguished from primary parotitis, or mumps, in three ways: (1) It invariably occurs as a complication during the course of some other affection—acute or chronic diseases and post-operative states; (2) it is not contagious; (3) it not infrequently suppurates and gives rise to a parotid abscess. Among the acute diseases it follows may be mentioned typhus, enteric, and scarlet fever, diphtheria, etc. The chronic diseases most frequently complicated by it are diabetes, mercurial stomatitis, general paralysis of the insane, and iodism. The operations most frequently followed by parotitis are almost invariably those upon the abdomen and pelvic organs. Operations where sepsis has been present are the ones most frequently followed by parotitis. The parotitis may arise during the first few days after operation or not until a month later. As a rule it appears from the sixth to the eighth day. It begins with pain and swelling in the parotid region, later spreading to other areas supplied by the fifth nerve. Finally the whole cheek becomes brawny and the eyelids puffy and closed. The general symptoms consist of fever, malaise, depression, and thirst. If suppuration occurs the symptoms become worse, and the swelling may become soft and fluctuating. But in many cases the actual presence of pus is hard to determine, the skin being pale and fluctuation not obtainable, the pus lying deeply beneath the tense parotid fascia. If pus forms it may *(a)* be absorbed; *(b)* drain into the mouth through the parotid duct; *(c)* escape through an incision if the abscess be opened; or *(d)* burst into the mouth or into the external auditory meatus. Fortunately, the following results are rare, however: The patient may die of septic poisoning, many sinuses may form, or the pus may destroy the joint of the jaw, cause necrosis of the jaw, broach the jugular vein or the facial artery. Thrombosis of the facial or jugular vein may lead to embolic pyæmia. The mild cases recover if the primary disease is not fatal.

The author's observations make it highly probable that secondary parotitis is invariably due to an infection of Stenson's duct, dependent on a septic condition of the mouth, and that its onset may be prevented by attention to the following details: The patient's mouth should be carefully cleansed and rendered aseptic before operations and at the commencement of long febrile illnesses; if necessary, causes of nasal obstruction leading to mouth breathing, such as adenoids, should be removed. The anæsthetic apparatus should be sterile. The mouth should be periodically cleansed afterward, especially after every attack of vomiting. The bowels should be opened early, and food by the mouth, and especially solid food, should be given as soon as possible. Opium should not be given unless absolutely necessary. The head should not be placed too low nor the binder fixed too tightly, and the dorsal decubitus should be given up as soon as possible.

If parotitis appears, the cleansing of the mouth should receive redoubled attention, and a sialagogue and an aperient should be given. If the disease progresses, the region of the swelling should be incised without waiting for fluctuation—usually by the fourth day. A transverse incision should be used, with due regard to the branches of the facial nerve and Stenson's duct. The parotid fascia should be freely incised and the finger introduced into the abscess cavity to break down all septa and loculi. The process of duct infection is due to *(a)* the presence of specific micro-organisms (mumps, typhoid fever, etc.) in the mouth; *(b)* increase in number or virulence of the normal mouth organisms (staphylococci, etc.); and *(c)* anything interfering with the quantity or quality of the saliva protectively draining down the duct. It is probable that all forms of parotitis, acute as well as chronic, except those due to syphilis, pyæmia, and direct spread from neighboring tissues, are due to duct infection. The submaxillary and sublingual glands may be affected in an exactly similar manner. R. T. H. Bucknall (Lancet, October 21, 1905).

PERICARDITIS COMPLICATING ACUTE LOBAR PNEUMONIA.

Pericarditis developing during the course of an acute lobar pneumonia, is a most serious and important complication occurring more especially in young adults, frequently insidious, latent, and often not recognized during life. It appears to arise as frequently by a metastatic process as by direct extension. Treatment is very unsatisfactory and often unavailing, except when fluid is present, in which case it is more surgical than medical. In all patients with pneumonia, a most careful watch should be kept on the heart, as this complication appears to be much more frequent than is generally supposed, and urgent treatment in the early stages may materially reduce a high mortality. J. A. Chatard (Bulletin of the Johns Hopkins Hospital, October, 1905).

PHLEBOSCLEROSIS.

Phlebosclerosis is described by the authors as a very common condition, which has been recognized as such only by pathologists, some of whom regard it as a process analogous to similar disease in the arteries. These writers, however, find that it exists commonly quite apart from diseased arteries, and that it is extremely common in peripheral veins, especially those of the lower extremities. Their findings and conclusions may be epitomized thus: 1. Peripheral sclerosis is very common, existing in nearly 60 per cent. of patients examined by them in hospitals. 2. It is much more common in young people than is generally supposed, especially in the saphena veins. 3. It is frequently present without any arteriosclerosis. 4. Sections show no signs of marked inflammation or degeneration. Proliferation and hypertrophy of intima and media are the chief pathological pictures. 5. The usual causes of arteriosclerosis are absent. 6. The condition is allied to a process of functional hyperplasia rather than to chronic inflammation and is not associated, as a rule, with injury, though with prolonged strain from movement, posture, and changes of blood tension. C. F. Martin and J. C. Meakins (American Medicine, October 7, 1905).

PLEURISY AND TUBERCULOSIS.

The pleural cavities are readily accessible to bacterial invasion. The great majority of pleurisies with effusion which occur in otherwise healthy individuals are due to infection with tubercle bacillus. This is proved by autopsy findings, by methods of exact diagnosis, and by the subsequent clinical histories of the majority of persons who have been the subjects of such attacks. There is ample evidence to indicate that the so-called idiopathic, dry pleurisies are likewise usually tuberculous.

The subjective symptoms of inflammation of the pleural apices often simulate those of myalgia or rheumatism. In every case of pleurisy, or of persistent pain in the chest or shoulder, which cannot be satisfactorily ascribed to other causes, tuberculosis should be suspected and a careful physical examination should be instituted to determine, if possible, the existence of a tuberculous process in the lungs, or elsewhere. Even if physical examination in such cases prove negative, the patients should be regarded as tuberculous until the contrary is proved, and should at least be kept under prolonged observation and re-examined from time to time. The tuberculin test may be relied upon to confirm or exclude the tuberculous nature of pleurisy in case of doubt.

The application of these principles will always lead to an earlier recognition of tuberculous disease of the lungs, especially, and to the institution of treatment at a period which will in many cases secure to the patient most important advantages in his prospects for recovery. Silvio von Ruck (New York Medical Journal and Philadelphia Medical Journal, September 30, 1905).

POTASSIUM PERMANGANATE AS A HÆMOSTATIC.

The writer speaks of the various disadvantages attending the application of all the ordinary hæmostatics. Even compression is often impracticable in the minor surgery that the practitioner is most frequently called upon to do, because of the undesirably conspicuous dressing it entails. He has found in potassium permanganate an extremely efficient hæmostatic which, owing to its antiseptic nature, does not introduce the risk of infection, does not, to any extent, destroy the tissues, and has the further advantage of being very cheap. He uses it either in strong solution, in powder form, or in a paste. He obtains a fine powder by triturating it with one-half its weight of diatomaceous earth, after having first moistened and then dried the mixture. The paste is made with vaseline in the proportion of one part to three. This is most conveniently used in collapsible tubes. If there is bleeding to any extent after the excision of warts, condylomata, small tumors, etc., the bleeding surface is to be wiped dry with a piece of gauze, and the permanganate in one form or the other applied instantly. Usually a single application suffices, but occasionally more are necessary. Any discoloration of the skin about the wound, accidentally produced, is readily concealed by covering it with a piece of zinc plaster. About mucous membrane the paste is preferable, but epistaxis is well controlled with the solution. The patients complain of slight burning after the application of the permanganate. Vorner (Münchener medizinische Wochenschrift, September 19, 1905; Medical Record, October 14, 1905).

PROSTATE, CARCINOMA OF THE.

From a study of 40 cases of carcinoma of the prostate, the writer concludes that it is more frequent than is usually supposed—occurring in about 10 per cent. of the cases of prostatic enlargement, as shown also by Albarran. It may begin as an isolated nodule in an otherwise benign hypertrophy or a prostatic enlargement which has for many years furnished the symptoms, and signs of benign hypertrophy may suddenly become evidently malignant. Marked induration, if only an intralobar nodule in one or both lobes of the prostate in men past 50 years of age, should be viewed with suspicion, especially if the cystoscope shows little intravesicular outgrowth, and pain and tenderness are present.

The posterior surface of the prostate should be exposed as for an ordinary prostatectomy, and if the operator is unable to make a positive diagnosis of malignancy, longitudinal incisions should be made on each side of the urethra (as in prostatectomy) and a piece of tissue excised for frozen sections, which can be prepared in about six minutes and examined by the operator at once. If the disease is malignant the incisions may be cauterized and closed and the radical operation performed.

Cancer of the prostate remains for a long time within the confines of the lobes, the urethra, bladder, and especially the posterior capsule of the prostate resting inviolate for a considerable period. Extraprostatic invasion nearly always occurs, first, along the ejeculatory ducts into the space immediately above the prostate between the seminal vesicles and the bladder and beneath the fascia of Denonvilliers. Thence the disease gradually invades the inferior surface of the trigone and the lymphatics leading toward the lateral walls of the pelvis, but involvement of the pelvic glands occurs late and often the disease metastasises into the osseous system without first invading the glands.

Cure can be expected only by radical measures and the routine removal of the seminal vesicles, vasa deferentia and most of the vesical trigone with the entire prostate as carried out in 4 cases by the writer and described by illustrations is shown to be necessary by the 40 cases, including 8 autopsies and 10 operations reported. The 4 cases in which the radical operation was done demonstrated its simplicity, effectiveness, and the remarkably satisfactory functional results furnished. H. H. Young (Bulletin of the Johns Hopkins Hospital, October, 1905).

SCARLET FEVER, INFECTION WITH, THROUGH OPEN WOUNDS.

Cases of scarlatinal infection through open wounds have the following characteristics: *(a)* The period of incubation is short. *(b)* There is a characteristic change in the appearance of the wound following infection. *(c)* The neighboring lymph-nodes become enlarged. *(d)* The rash usually (but not necessarily) begins at the point of inoculation. *(e)* The throat symptoms are mild. There is no exudate or marked involvement of the submaxillary glands. *(f)* After the rash has reached its height, the wound improves rapidly in appearance. *(g)* Desquamation usually (but not necessarily) begins around the wound.

Extrabuccal infection with scarlet fever is probably more frequent than is generally supposed. It should be looked for in cases in which the period of incubation is unusually short, in which the throat symptoms are slight, and in which the rash makes its first appearance in an unusual location. All children exposed to scarlatinal infection should have open wounds (including vaccination) covered by a protective dressing.

The period of incubation in scarlet fever depends on the virulence of the contagious material, the receptivity of the individual, and the portal of entry of the infectious material. An individual who is immune to infection in the ordinary way, may contract the disease by direct inoculation. Charles Hermann (Archives of Pediatrics, October, 1905).

SCOPOLAMINE-MORPHINE ANÆSTHESIA.

The greatest difficulty has been found in determining the best proportion of the drugs to employ. Too much morphine will affect the heart dangerously, while too much scopolamine produces a state of excitement similar to that following atropine poisoning. The patients become restless and talk as if in a delirium. The pupils are widely dilated and rigid and the face is flushed. They demand water constantly and complain of dryness; but the dryness soon wears off, and neither in man nor in dogs have any cases become known where scopolamine alone has produced death.

Scopolamine-morphine is used for two purposes: First, with the intention of performing the whole operation under this anæsthetic alone; secondly, as a preliminary to anæsthesia by inhalation of chloroform or ether. If the case is a complete success the patient becomes sleepy after the first injection, is fast asleep after the second, and is unconscious and insensible to pain after the third. The operation may begin one-half hour after the last injection.

According to the writer's experience, the sleep may be so slight that the patient awakes when spoken to or moved. Some, if aroused, cannot answer intelligently, but mumble a few unconnected words. Others again, though they cannot be aroused, move when being handled, or even complain. It then becomes necessary to add some other anæsthetic to the scopolamine-morphine. The author has, in a number of cases, added infiltration anæsthesia with a 0.06 per cent. salt solution, without cocaine, to the complete exclusion of chloroform. When chloroform is given very little is required, and in many cases after the first few drops have been given for the first incision no more chloroform is necessary, so that operations lasting fifteen to thirty minutes can be finished with less than a teaspoonful of chloroform. Complete muscular relaxation does not, as a rule, result.

Scopolamine-morphine has been used by the author on 72 patients in 92 operations. Of the 72 patients, 3 died. In none could the scopolamine-morphine be accused. Of the deaths reported as due to it, only 1, in the writer's opinion, seemed to be due to the scopolamine-morphine. He has used hyoscine instead of the scopolamine, and with both had the same result.

Scopolamine, when dissolved in water, does not keep long, and it has been the writer's rule to have a new solution made every week. Even then it was noticed that the effects of the drug would decrease toward the end of the week, so that in the future he will have a new solution made every three days. Ries (Annals of Surgery, August, 1905).

SLEEPLESSNESS AND PAIN.

In treating insomnia the remedies which bear upon the circulation should first be considered. Where the arteries are atheromatous their contractility must be restored, by means of iodide of potassium, massage, or the high frequency current, which last is often very efficacious in cases of arteriosclerosis or contracting kidney. All sources of local irritation must be removed. Where indigestion produces insomnia, no food should be given during four hours or more before sleeping time. Where flatulence and acidity prevent sleep, a dose of soda mint is often better than a sleeping draught. When patients awake in the middle of the night and cannot get to sleep again, a little warm food is often of great service. But it must not be too hot. Where the action of the heart is kept up by a high temperature, as in fevers, sponging the skin and leaving the body exposed under a cradle, often work wonders. Among drugs the various urethanes (combinations of urea) have considerable power to lessen cerebral activity and to produce sleep without exerting any marked influence on the circulation. Veronal is a good example. Alcohol is sometimes a powerful hypnotic, exerting a sedative effect upon the nervous structures. The more powerful hypnotics (opium, hyoscyamus, etc.) relieve pain as well as induce sleep. Increased sensibility to pain is sometimes due to lessened alkalinity of the blood, and may be remedied by the administration of alkalies. L. Brunton (British Medical Journal, October 21, 1905).

SPINE, TUBERCULAR CONDITIONS OF THE.

Complete methodical and long-continued fixation of the spine in the position of hyperextension, with healthy surroundings in the sunlight, are the prime factors in securing new ossific deposit necessary to replace the various bone.

Laminectomy for paraplegia is advisable only after long-continued and patient treatment along the above-named lines from one to two years, since the prognosis, especially in children, under these conditions is favorable, and good powers of locomotion may be confidently expected. The operation is justifiable in selected cases where loss of motion and sensation are progressively worse and the symptoms threaten life. If the tubercular masses within the spine can be removed, and if extradural pachymeningitic deposits or pus can be taken away, improvement may be expected, and in many cases relief occurs. The operation has a mortality of about 25 per cent. from immediate shock, 36 per cent. within a month; while one-half the cases die within the year, their lives being probably shortened by the operative procedure. Cases of non-improvement and death equal nearly 65 per cent.

Forcible immediate straightening of the kyphosis is an unsurgical and dangerous proceeding; it is liable to reawaken the tubercular disease and to weaken the column. Forcible gradual straightening by supporting the kyphotic area upon a pedestal is a valuable agent in relieving deformity. The weight of the shoulders and pelvis can thus be utilized as straightening forces and the weight of the column thrown upon the posterior arches. In this position it is permanently fixed by plaster of Paris.

Complete erasion of the carious bodies of the vertebræ is an uncertain operation; in the dorsal region requiring section of ribs, with danger of wounding the pleura. Wiring of the spinous processes has never been sufficiently tried to demonstrate its helpfulness.

Spinal abscesses which contain only liquefaction of caseation should be aspirated. When true pus has formed, aseptic through drainage is advisable. De Forest Willard (Annals of Surgery, October, 1905).

SURGERY DURING THE RUSSO-JAPANESE NAVAL WAR.

At the meeting of the Association of Military Surgeons of the United States, Surgeon-General Suzuki, of the Imperial Japanese Navy, made an address on his experiences during the Russo-Japanese naval war. He served on the flagship of Admiral Togo as surgeon-in-chief of the combined fleets. He considered the treatment and management of wounds and the sanitary arrangements of the fleets.

The instructions issued by him before leaving the naval base were: (1) the strictest attainable asepsis; (2) conservative surgery; (3) avoidance of amputations on war ships, and transference of the wounded to hospital ships as soon as possible after the engagement. From February, 1904, to August, 1905, out of 1891 casualty deaths, 1148 were due to shipwreck through mines, and only 563 to wounds in battle. Of 1791 wounded during the same period, 617 were transferred to hospital with only 32 deaths. The methods used were those generally employed.

He divided the proper treatment of the wounded in war into two stages: during action, only first aid; after action, temporary relief in the ship's surgery, the patient being then transferred to the hospital ship.

General Suzuki then discussed the proper location of the ship's surgery, which he said should be below the water line; the transportation of the wounded; the supply of dressing materials, which, with praiseworthy liberality, had been made amply large for all the needs of the fleet; he described the first aid package issued by him; the attention paid in the Japanese navy to the eyesight of gunners; the number and character of the wounds inflicted; the sanitary arrangements, among which may be particularized the diet, consisting of biscuit, 6 ounces, or bread, 3 ounces; rice, 12 ounces; barley, crushed, 4 ounces; meat, preserved, 5 ounces, or fresh, 7 ounces; fish, preserved or fresh, 5 ounces; vegetables, fresh, 15 ounces, or dried, 3 ounces; tea, ½ drachm; barley, roast, 3 drachms; sugar, 6 drachms. To this must be added the following weekly allowance for cooking: peas or beans, 2½ ounces; wheat flour, 2 ounces; sugar, 3½ ounces; soy, 3 ounces; sesame oil, 1 drachm; salt, 1½ ounces; fat, 1 ounce. Supper ration: biscuit, 3½ ounces, or bread, 5 ounces; tea, ½ drachm; sugar, 4 drachms. Water was supplied by two water ships distilling daily about three hundred tons of water, as well as by water transports. Every one was required to take a bath and to put on a change of clothing before going into action, and General Suzuki attributed to this fact the comparative freedom from sepsis of the Japanese in the war. (St. Louis Medical Review, October 21, 1905).

SYPHILIS, THE FEVER OF LATE (VISCERAL).

Late (visceral) syphilis is attended with persistent fever much more frequently than is generally supposed; a fever apart from secondary infections and complications. The fever is variable in type, but is commonly of low grade and intermittent. It is chiefly in those cases where the liver is involved in the specific process that it occurs, and may be explained by "hepatic insufficiency" permitting the leakage of toxins into general circulation. It may be associated (occasionally) with chills, night sweats, and emaciation so as to simulate tuberculosis, sepsis, or malaria —especially the first. The "tuberculin" test is of little value in attempting the syphilis - tubercle differentiation, and may be risky. No difficulties and errors have occurred in the experience of leading clinicians, the only safeguard being eternal vigilance and an exhaustive search for the stigmata of past syphilis in every obscure case of chronic fever. The therapeutic test, though unscientific, is permissible.

The fever of late sphilis (apart from secondary infections) is, in the great majority of cases, rapidly amenable to treatment by Hg and KI. The best method is by the "mixed" treatment, and heroic doses are unnecessary and may be harmful. Arthur Birt (Montreal Medical Journal. October, 1905).

TABES, EARLY DIAGNOSIS OF.

Recognizing the great importance of early diagnosis in tabes, with the possibility of prompt treatment, the writer draws attention to two signs in addition to those commonly looked for in this disease. These are, first, the condition of the Achilles tendon reflex; and, secondly, the examination of the cerebrospinal fluid by lumbar puncture. With regard to the first, it is lost at quite an early stage in the disease. The best method of testing this reflex is to have the patient kneeling with the feet hanging over the bed or chair. If lumbar puncture is practiced, it is probable that if tabes is present there will be an excess of leucocytes in the cerebro-spinal fluid, especially the small lymphocytes. This, of course, might be due to any chronic inflammatory process in the cerebrospinal tract, and is not necessarily evidence of the specific process which causes the symptoms of tabes dorsalis; but, if other signs and symptoms of tabes are present, it is of considerable help in the differential diagnosis as opposed, for example, to a mere neurosis. Severino (Riforma Medica, April 29, 1905; British Medical Journal, October 14, 1905).

TUBERCULOSIS, PULMONARY, AFTER-TREATMENT OF.

The writer emphasizes the great tendency toward relapse and chronicity of tuberculous ulceration in the lungs as well as in other parts, *e.g.*, the skin and bones, and thinks there is a tendency at the present time to take too optimistic a view of its curability. The disease is practically always more or less advanced from the pathological standpoint before it is recognized clinically. Although some patients have such good resistance that they recover in spite of unfavorable surroundings and methods of living, the majority require a continuous life for years rather than months under the most favorable hygienic and meteorologic conditions before there is assurance that their lesions are permanently healed. Placing the patient under proper conditions for a short time often causes the disease to become quiescent, but this is only the first step in the cure of a disease that, on account of the nature and severity of the pathological lesions, is essentially of long duration.

In an analysis of 100 cases of pulminary tuberculosis that have been at least quiescent for from one year to ten years, the average period of quiescence being three years nine months, he finds that at the present time 87 are either quiescent or cured and able to work. Twenty-five of the 100 cases have at some time relapsed. Thirteen of these have relapsed and recovered, 8 have relapsed and died, and 4 are at present chronic invalids. One patient died from cancer of the stomach without relapse of his pulmonary trouble. Of these cases 67 were originally classified as incipient and 33 as moderately advanced or advanced. The period of quiescence before working or returning home varies from no time to thirty-six months, the average being eight months. J. A. Wilder (American Medicine, October 7, 1905).

VOMITING OF PREGNANCY.

The writer divides the cases of serious vomiting in pregnancy into the following groups: 1. Reflex vomiting; this may be due to abnormalities of the generative tract or ovum existing prior to or coincident with pregnancy. Among such conditions are *(a)* displacement of the uterus, particularly retro-flexions; *(b)* ovarian tumors; *(c)* certain cases of endometritis, and *(d)* abnormalities of the ovum, such as hydatidiform mole, hydramnios, and twin pregnancy. 2. Neurotic vomiting. Many cases are more or less closely allied to hysteria, and are amenable to suggestive treatment. But this variety should be diagnosed only after excluding organic lesions and demonstrating the absence of toxæmia by a thorough urine examination. 3. Toxæmia vomiting.

That pernicious vomiting in pregnancy is due to toxæmia is a view that has been widely adopted in late years, and all sorts of theories have been advanced as to the nature and origin of the toxic material. That disturbed function of the liver stands in some relation to pernicious vomiting was suggested by Duncan in 1879. In a certain proportion of cases of toxæmic vomiting, characteristic lesions are found at the necropsy and are identical with those observed in acute yellow atrophy and icterus gravis. These consist in the degeneration and necrosis of the central portions of the liver lobule and the fatty degeneration and necrosis of the secretory portions of the kidneys. They can only be explained by the assumption that some powerfully toxic substance is circulating in the blood. At present we are absolutely ignorant as to the exact nature of such toxic substances, but it is possible that they are metabolic in origin and directly connected with pregnancy.

Associated with the above-mentioned lesions is a striking change in metabolism, manifested by a marked increase in the percentage of nitrogen put out as ammonia compared with the total nitrogen of the urine. The former may rise from 3 per cent., as normal, to 16 or even 46 per cent., as in one of the author's cases. The excess of ammonia probably represents an attempt to neutralize an excessive production of acid —a so-called acid intoxication, as in diabetes, phosphorus poisoning, etc. The presence of a marked increase in the ammonia coefficient in women suffering from pernicious vomiting indicates a serious toxæmia, and abortion should be induced as soon as the condition is detected. A coefficient of 10 per cent. is the danger signal. Albumin and ammonia are not present in the urine until shortly before the fatal outcome. In eclampsia they are present early. The total amount of nitrogen is greatly diminished, and the ammonia coefficient remains practically normal. J. W. Williams (Lancet, October 21, 1905).

X-RAY IN MALIGNANT DISEASE.

Basing his observations upon the result of over three years' tireless investigation, the writer discusses the value of x-ray in the treatment of cancer, including sarcoma. During the time specified 176 patients were treated, as follows: 68 cases of sarcoma; 36 of carcinoma of the breast; 44 of epithelioma of the head, face, and neck, including tongue; 14 of deep-seated abdominal growths, probably carcinoma; 5 not classified; 3 of tuberculous glands of the neck; 3 of Hodgkin's disease; 3 of lupus. In 5 cases of sarcoma there was complete disappearance of the growth, but in all it recurred a few months later. In two of these the recurrent growth disappeared under combined x-ray and toxin treatment, the patients remaining well to date. The 36 cases of carcinoma of the breast furnished nearly every variety of this disease. The treatment was almost wholly negative. In only one patient did the tumor disappear, and in this case the diagnosis was in doubt. Of the 44 cases of epithelioma of the head, face, and neck, in only 4 did the disease disappear entirely. In every case in which there was glandular involvement, no improvement whatever was noticed, and the rays had little, if any, effect in retarding the disease. One patient suffering with Hodgkin's disease improved markedly at first, but later died suddenly. No autopsy. There was complete disappearance of lupus in two patients, and improvement in the third. In one patient tuberculous glands of the neck decreased in size; in one they disappeared, and in the third there was slight involvement. Reports from several other series of observations agree fully with this. Of late the x-ray as a pre-operative measure has been advocated, the reason given being that the operative field is thus cleared. The fallacy of such reasoning is twofold: (1) It presupposes that the agent is curative, and (2) it takes for granted that no harm can come to the patient by reason of delay. Both of these arguments are pernicious. W. B. Coley (Annals of Surgery, August 1905).

Book Reviews.

PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M.D., F.R.C.P., Consulting Physician and Emeritus Lecturer on Clinical Medicine at Charing Cross Hospital, etc. Tenth American, Revised from the Tenth English Edition. Revised and Enlarged by W. Cecil Bosanquet, M.A., M.D. (Oxon.), F.R.C.P. (Lond.), Assistant Physician (Late Pathologist) to Charing Cross Hospital, etc. With a Colored Plate and 348 Illustrations in the Text. Lea Brothers & Co., Philadelphia and New York, 1905.

In the *Lancet* of September 2, 1905, is to be found a list of those text-books recommended by the consensus of opinion of a representative group of London teachers for the examination of the London conjoint qualifications. In the third and last examination in which pathology is to be passed by the student Green's "Pathology" is mentioned first and is described as being an excellent work, with which statement we heartily agree. The other pathological books recommended are Lazarus Barlow's "General Pathology." Bowlby's "Surgical Pathology," and Curtis's "Essentials of Bacteriology." This work therefore, is written with the idea of supplying the student with such special information upon pathology as he may need in passing an examination, perhaps before the very person whose opinions are quoted. For this reason a careful perusal of its pages will show that the earlier editions of this work were based, more than the present one upon Ziegler, there being a marked tendency in the present edition to devote special attention to the school of English pathologists. Among pathologies the popularity of this work in America is surpassed in the order named by the text-books of Stengel, Delafield and Prudden, Ziegler, and Coplin, as is seen from a recent analysis made by the reviewer of the books recommended in the catalogues issued by fifty-five members of the Association of American Medical Colleges.

The difficulty of covering the entire subject of pathology in a book of 610 pages, especially if it be well illustrated, as in the present case, is well shown by the fact that the index does not even refer to such important and suggestive pathological subjects as abortion, abrine, acromegaly, adiposis dolorosa, angina (Vincent's), arthropathies, carotid bodies, cryoscopy, etc. It may be noted in recent works upon pathology that more and more attention is being paid to clinical conditions and terms. Thus, one finds in this work information supplied in regard to agraphia, ankle-clonus, anorexia, aphasia, Argyll Robertson pupil, Babinski's sign, carphology, catalepsy, color-blindness, etc.

Professor Green was distinctly a clinical teacher, and the present edition has been conscientiously revised and considerably enlarged by W. Cecil Bosanquet, of the Charing Cross Hospital, London, whose name is well known to American readers through his contributions to the "International Clinics." We congratulate all who had anything to do with the getting out of this book, as it is a fine piece of press-work, sold at a reasonable price, and contains an up-to-date digest of the subject of pathology.—H. W. C.

A TEXT-BOOK ON THE PRACTICE OF GYNÆCOLOGY. For Practitioners and Students. By W. Easterly Ashton, M.D., LL.D., Fellow of the American Gynæcologic Society; Professor of Gynæcology in the Medico-Chirurgical College of Philadelphia. Octavo Volume of 1079 pages, containing 1046 new and entirely original line drawings. Philadelphia and London: W. B. Saunders & Co., 1905. Cloth, $6.50, net. Half morocco, $7.50, net.

Dr. Ashton has written for the medical student the best book on Gynæcology in the English language. He has taken nothing for granted in the description of gynæcologic diseases or procedures. He assumes that the student has no special knowledge on this subject, and then proceeds to give him detailed and accurate descriptions of conditions and elaborate and precise instructions as to the preparation of the patient, selection of instruments, and of the successive steps of the surgical procedure advised. To older practitioners and specialists in gynæcology, this reiteration and repetition may seem a little tiresome and unnecessary; but for the student and the novice in gynæcologic practice, it is exactly what is required to impress the necessity for aseptic technique and for surgical accuracy. To the teacher of gynæcology the book is a boon; it is systematically arranged and ever keeps in mind the requirements of the busy medical student, who each year becomes more and more burdened with new specialties of which he must have at least a general knowledge before he can secure the coveted diploma.

Dr. Ashton's book contains 1046 new line drawings, which amply illustrate the text. Both the medical and surgical aspects of gynæcology have been carefully discussed; and the best methods of operations for the treatment of a disease are described rather than a multiplicity of methods which tend to confuse the average mind. The book is arranged on an anatomic basis, which permits of a discussion of the methods of examining each organ before describing its diseases, and renders unnecessary the usual chapter on physical examination. The author has wisely discussed the subjects of appendicitis and movable kidney so often associated with diseases of the pelvic organs. A complete index of 26 pages adds to the value of the book. After a careful review of this volume we have no hesitation in recommending it as a work which with extreme lucidity presents the latest and best knowledge of gynæcologic science.—W. K.

Text-Book of Human Physiology, Including Histological and Microscopical Anatomy with Especial Reference to the Practice of Medicine. By Dr. L. Landois. Tenth Revised and Enlarged Edition. Edited by Albert P. Brubaker, M.D., and Translated by Augustus A. Eshner, M.D. With 394 Illustrations. Philadelphia: P. Blakiston's Son & Co. Octavo, 1028 Pages. Cloth, $7.00. Leather or Half-Morocco, $8.00.

Landois's Physiology, translated under the direction of Professor Brubaker, is unquestionably one of the best and most reliable works of the kind in the English language. This is said after a very careful perusal of the book, and after many of its parts had been used as guide. Moreover, it shows evidence of a careful review of the general literature. This is well shown in the position taken by the author in respect to the interchange of gases between the blood in the pulmonary capillaries and the air in the alveoli. The writer of this review has emphasized the fallaciousness of the prevailing doctrines on this subject, and particularly the fact that the absorption of oxygen is not due to a diffusion process. Landois says in this connection: "The absorption of oxygen from the alveolar air for the purpose of oxidation of the venous blood in the pulmonary capillaries is a chemical process, as the gas-free hæmoglobin in the lungs takes up oxygen to form oxyhæmoglobin. That this absorption depends, not on diffusion of the gases, but on the atomic combination pertaining to the chemical process, is shown by the fact that the blood does not take up more oxygen when the pure gas is respired than when atmospheric air is respired; further, that animals that are made to breathe in a small, closed space will absorb into their blood all of the oxygen but traces, to the point of suffocation. If the respiratory absorption of oxygen were a diffusion-process, much more oxygen would have to be taken up in the first case in accordance with the partial pressure of the gas; while in the latter case such an extensive absorption could not take place."

Another excellent feature which renders this book more useful than many other works on physiology, is the presence of several sections upon comparative physiology and the history of each subject studied. On the whole, this work is heartily recommended.—C. E. de M. S.

Books and Monographs Received.

The editor begs to acknowledge, with thanks, the receipt of the following books and monographs:—

"Operative Surgery." For Students and Practitioners. By John J. McGrath, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School, Surgeon to the Harlem, Post-Graduate, and Columbus Hospitals, New York. Second Edition, Thoroughly Revised. With 265 illustrations, including many Full-Page Plates in Colors and Half-tone. 628 Royal Octavo Pages, Extra Cloth, $4.50, net; Half-Morocco, $5.50, net. Sold only by subscription. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.——A Treatise on Diagnostic Methods of Examination. By Prof. Dr. H. Sahli. Additions by Francis P. Kinnicutt, M.D., Nathaniel Bowditch Potter. W. B. Saunders & Co., Philadelphia, 1905.——Operative Surgery. By John Fairbairn Binnie, A.M.C.M. P. Blakiston's Son & Co., Philadelphia.——Pathology and Morbid Anatomy. By T. Henry Green, M.D. Lea Brothers & Co., New York City.——Superstition in Medicine. By Dr. Hugo Magnus. Translated by Dr. Julius L. Salinger. Funk & Wagnalls Company.——Carbonic Acid in Medicine. By Achilles Rose, M.D. Funk & Wagnalls Company.——Text-Book of the Practice of Medicine. By Dr. James M. Anders. W. B. Saunders & Co., Philadelphia.——Text-Book of Diseases of Women. By Barton Cooke Hirst. W. B. Saunders & Co., Philadelphia.——Anatomy of the Brain. By J. F. Burkholder, M.D., C. P. Engelhard & Co.——Notes on the Composition of Scientific Papers. By Clifford Allbutt.——A Manual of Diseases of Infants and Children. By John Ruhrah, M.D. W. B. Saunders & Co., Philadelphia.——A Text-Book of Physiology. By William H. Howell. W. B. Saunders & Co., Philadelphia.——Four Epochs of Woman's Life. By Anna M. Galbraith. W. B. Saunders & Co., Philadelphia.——Health, Strength, and Power. By Dudley A. Sargent. H. M. Caldwell & Co.——Disorders of Metabolism: Nephritis. By Prof. Carl von Noorden. Treat & Co.——Drink Restriction. By Carl von Noorden. Treat & Co.——Obesity. By Carl von Noorden. Treat & Co.——Colitis.

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By A. B. Conklin, Ambler, Pa., 1905.——"Researches in the Sun-spot Spectrum, Region F to *a*." By Walter M. Mitchell, Princeton, N. J., 1905.——"A New Micro-Chemical Reaction of the Sperma and Its Application in Medico-Legal Investigations." By Michele Barberio, Naples, Italy, 1905.——"Mines de Houille Rendues Réfractaires a L'Ankylostome par des Eaux Salées de Filtration." Par le Dr. A. Manouvriez, Valenciennes, France, 1905.

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